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JUNE 28, 1917

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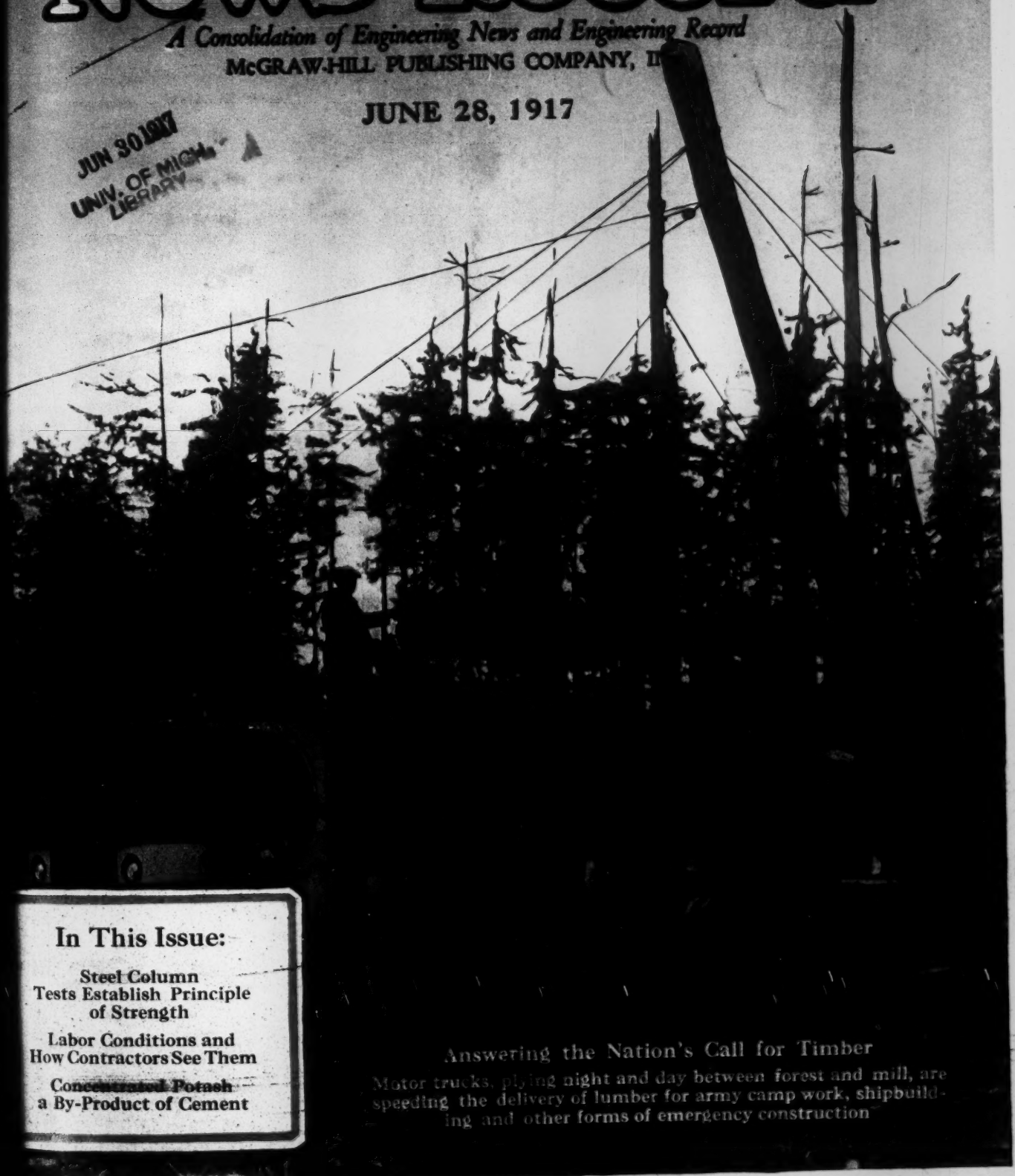

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Steel Column Tests Establish Principle of Strength

Labor Conditions and How Contractors See Them

Concentrated Potash a By-Product of Cement

Answering the Nation's Call for Timber

Motor trucks, plying night and day between forest and mill, are speeding the delivery of lumber for army camp work, shipbuilding and other forms of emergency construction

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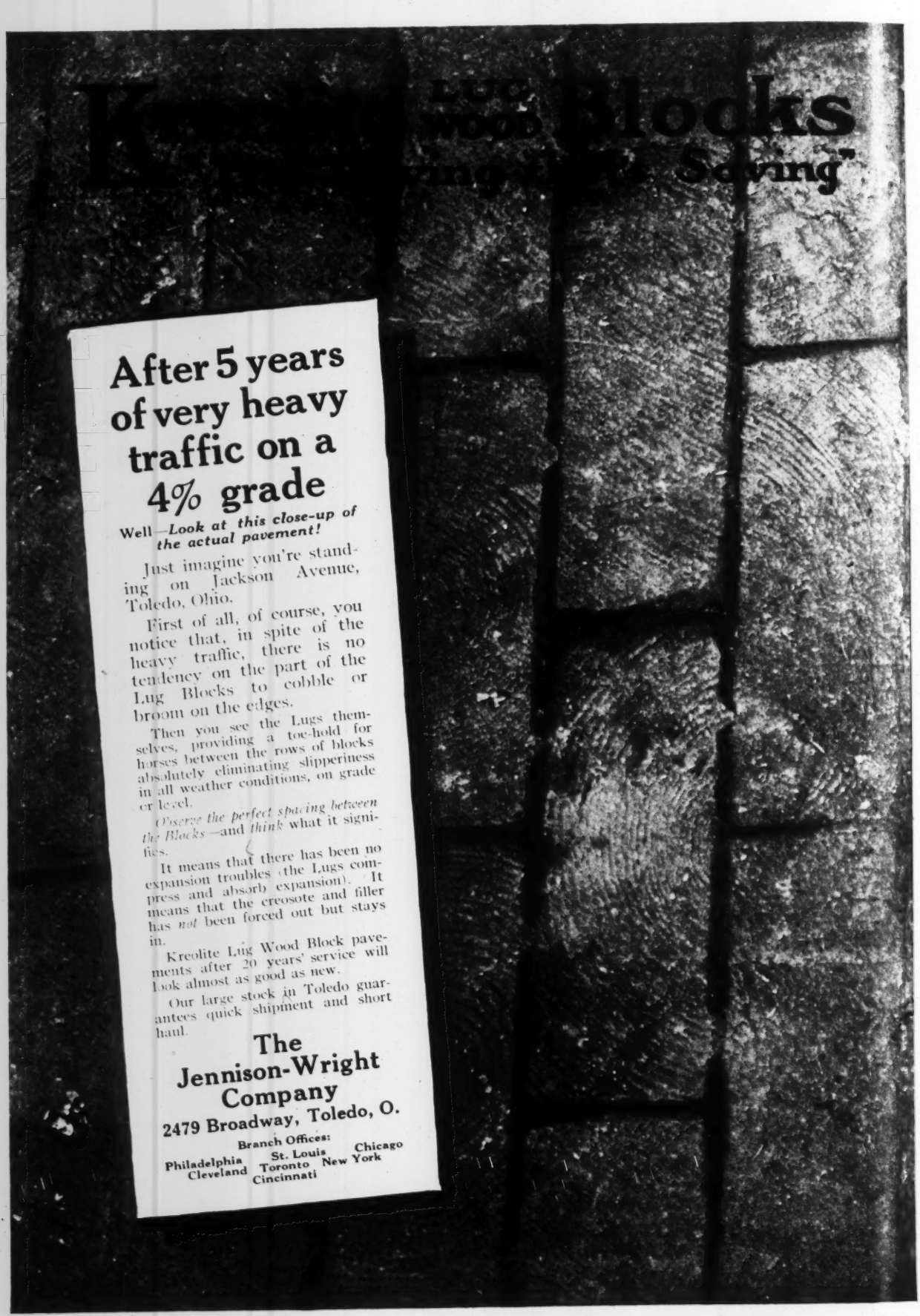
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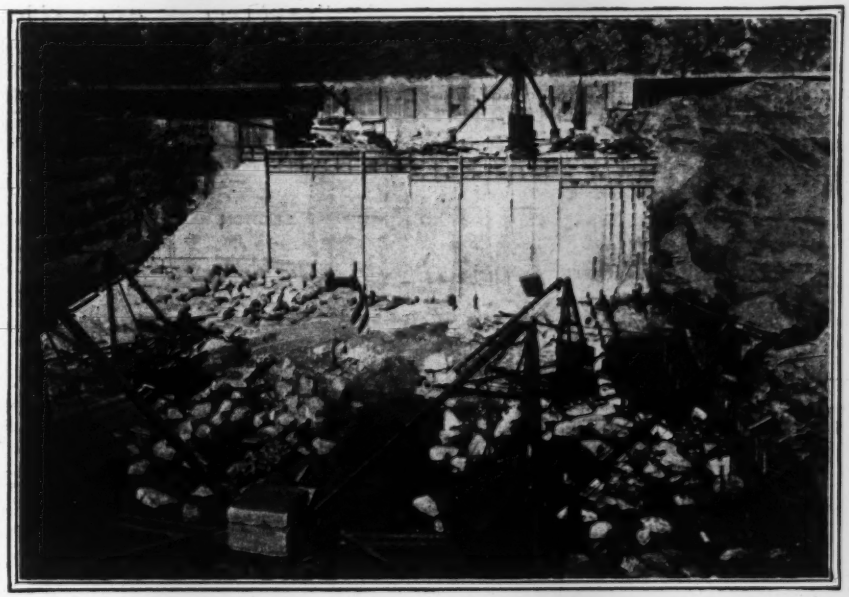
Engineering News-Record
A CONSOLIDATION OF ENGINEERING NEWS AND ENGINEERING RECORD
A Weekly Journal Devoted to Civil Engineering and Contracting
PUBLISHED BY MC GRAW-HILL PUBLISHING COMPANY, INC.

Volume 78 NEW YORK, THURSDAY, JUNE 28, 1917 Number 13

Grouting the Foundation of the Elephant Butte Dam

Upstream Row of Grouted Holes and Two Downstream Rows of Drainage Wells Serve as Telltales



By E. H. BALDWIN
Formerly Senior Engineer, United States Reclamation Service

THE foundation of the Elephant Butte Dam of the United States Reclamation Service was in rock strata of such a nature that precautions against subpercolation were thought necessary. These precautions took the form of a line of drill holes in the lowest part of the cutoff wall, which were grouted tight, and two rows of drainage wells, both upstream of the grout barrier. These drainage wells were used as detectors of percolation and, where such percolation was found, as grout holes to fill up the fissures through which the water percolated.

Excavation for the foundation was carried to a maximum depth of 100 ft. below the old river bed. The material excavated was gravel, sandstone and shale. The sandstone was in layers, separated by shale, which when first uncovered was quite hard, but quickly disintegrated on exposure to the air. The sandstone was badly fissured, in fairly uniform layers in the bottom, but at the abutments was irregular and in places showed distinct folds. When the foundation was cleaned and prepared, and before masonry was started, a number of test holes were put down with a churn drill to a depth of 20 ft. or more to make sure that a satisfactory foundation had been reached.

A typical cross-section of the dam shows the cutoff trench, grouting holes and drainage wells and their relation to the drainage gallery. By means of iron pipe, carefully set and left in place, 4-in. holes were carried up from the center of the cutoff trench, spaced 10 ft. apart, parallel to the axis of the dam, to a height of about 20 ft.; above this they were formed in concrete with collapsible metal forms 6 in. in diameter; these holes were later drilled into the rock to a depth of 45 ft. and grouted with cement under high pressure.

About 10 ft. downstream from the line of grouting holes, a series of drainage wells were formed in the concrete, spaced 8 ft. apart and starting at bedrock. A similar row of drainage wells was formed 5 ft. downstream from the upper row and staggered with reference to them. The wells vary in size from 12 in. through the central portion of the dam to 8 in. near the upper portion of the abutments, as indicated in the plan. They were carried up to an inspection gallery, which also serves as a drainage gallery, with an outlet leading to the down-

stream face of the dam and discharging a few feet above river level. From the roof of the inspection gallery these wells were continued to the top of the dam and capped with a concrete plug 10 in. thick.

The upstream row of drainage wells was drilled with a 6-in. well drill to a depth of 45 ft. below the base of the dam, to intercept and discharge into the drainage gallery any waters that might develop sufficient head to rise to that elevation. It was also planned to grout any of the wells that showed undue leakage. The downstream row was drilled to a depth of 5 ft. only.

Grouting Holes Made with Core Drills

The placing of masonry in the dam commenced in June, 1913, and in December of that year drilling of the grouting holes was started with a Davis-Calyx core drill. A Davis cutter was at first used; but on account of the hardness of the sandstone encountered, the cutter was soon changed for a shot bit, which gave excellent results. This drilled a hole 2⅝ in. in diameter with a resultant core of 1⅝ in. This drill was operated almost continuously until January, 1915, during which time 2993 lin.ft. was drilled, 1625 ft. of core recovered. Actual time in operation, 3968 hours; actual drilling time, 2913 hours.

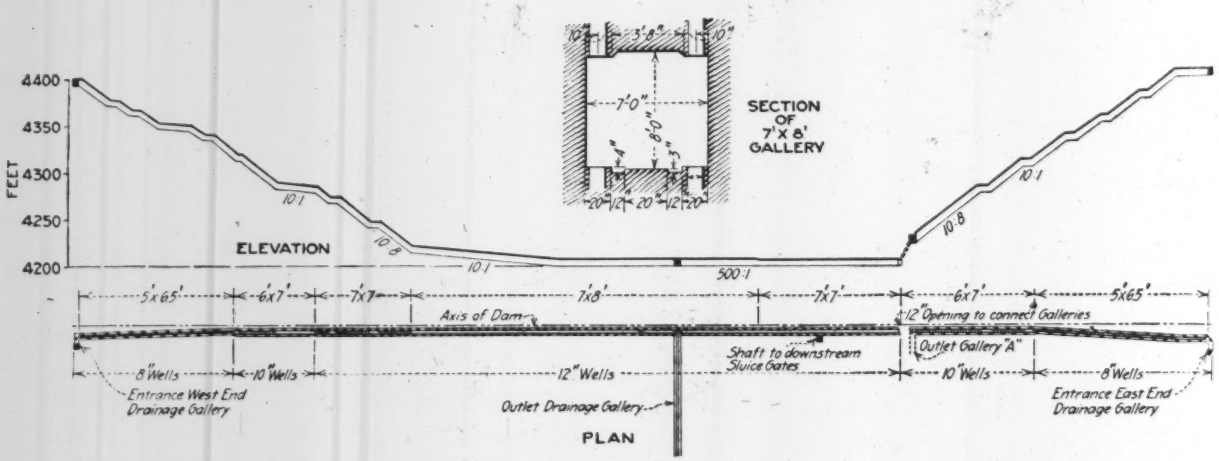
The quarry drilling was done with two 6-in. well drills; and when one of these could be dispensed with (March, 1914), it was moved to the dam and started drilling the upper row of drainage wells. As the cost of drilling with these machines was much less than with the core drill and as it was not essential that cores be recovered, when the second well drill was available (January, 1915) it was rigged with a 3-in. bit and used for drilling the remainder of the grouting holes. The two well drills drilled a total depth of 28,308 ft. Comparative unit costs of the core drills and the well drills are shown in the accompanying table.

Item of Drilling	Unit Costs Core Drill	Well Drill
Operation of drill, labor and supplies	$1.120	$0.372
Repairs: labor and supplies, including shop work	.330	.218
Rigging and moving, labor and supplies	.088	.018
Depreciation	.300	.076
Overhead expense	.127	.081
Total, per linear foot	$1.965	$0.765

In connection with the drilling costs it is only fair to state that the placing of masonry was crowded to the utmost and given the preference over other work, for which reason the drills were often operated at a disadvantage. Much of the drilling, particularly the drainage wells, was done when the dam had attained considerable height and as the drums on the well rigs were not large enough to accommodate more than 300 ft. of rope, it was necessary to substitute ⅝-in. wire rope for holes in excess of 300 ft. deep. Stretching of the manila rope was another reason for substituting the wire rope. Holes full of wood, others with crushed metal casings and still others with chains, hammers, etc., that had dropped from above and became embedded in the concrete were a source of much delay and the cause of many broken and lost tools.

How the Upstream Holes Were Grouted

Grouting of the upstream row of holes was commenced Feb. 9, 1914. The work was done with a Canniff grouting machine that had previously seen service at the Estacada dam and later at the Lahontan dam. Compressed air was piped to the dam from the central compressing plant, delivered there at a pressure of 100 lb. per sq.in., but due to varying uses at other points and to some leakage, it was rarely over 85 lb. at the machine. Water under pressure of 100 to 135 lb. was piped to the dam from the storage tank. The grouting machine was supplied from air and water mains through ¾-in. hose and pipe lines. Cement, supplies and equipment were stored in skips and moved by cableways or derricks as required.



WHERE THE GROUTING HOLES AND DRAINAGE WELLS ON ELEPHANT BUTTE DAM WERE LOCATED

After the grouting holes were drilled, they were cleaned with a water jet, which was conducted to the bottom through a hose, the pressure washing loose particles to the top and cleaning out seams and fissures. A 4- or 5-ft. length of pipe, of 2- or 3-in. diameter, with one end threaded to attach the machine coupling and the other end burred or threaded to retain a washer a little smaller than the diameter of the hole, was then set in the hole. Above the washer, cotton waste or rope ravelings were wrapped and tamped to a close fit around the sides of the hole; the pipe was temporarily held in place by a collar clamped around it about 8 in. below the projecting end. Cement grout was then poured around the pipe and allowed to set, and the pipe was kept capped until ready for grouting.

In addition to the regular line of grouting holes in the cutoff trench, many scattering holes were grouted. Throughout the body of the dam, wherever fissures in bedrock were found, 2-in. pipe was set in them; and after a mat of concrete of sufficient thickness to withstand the pressure had been placed around them, generally 4 to 10 ft., the fissures were grouted. There was naturally no regular system in the placing of these pipes; groups of fissures were usually found to be connected and often when one was being grouted the grout would flow from other pipes in the group.

Two Men Made Up Grouting Crew

A crew of two men handled the grouting except when an open hole taking large quantities of grout freely was encountered and speed in charging and handling cement became essential, or for passing cement when the outfit was located in a place inaccessible to derrick or cableway; then the force was temporarily increased accordingly. Ordinarily, one shift of 8 hours was sufficient to complete the grouting of one hole, but at times two or three succeeding shifts were worked. Operation was made as nearly continuous as possible; for when the grouting of a hole was commenced, it was found desirable, if not imperative, to complete it before stopping.

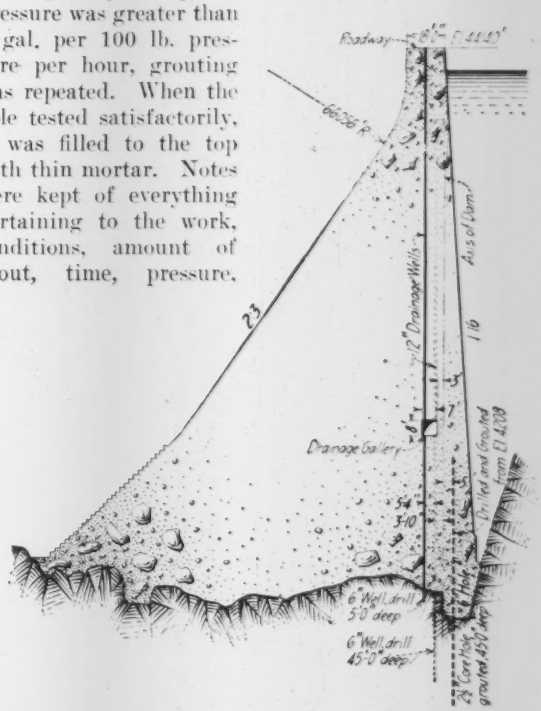
It was not practicable to adhere to any set rule for grouting, as the character of the holes was too variable and much had to be left to the judgment of the operator; but procedure was about as follows: After the hole was clean and empty of water (in tight holes water was expelled by compressed air), grouting was begun. Three proportions of grout were used: 1 part by volume of cement to 7 parts by volume of water; 2 parts of cement to 7 parts of water; and 3 parts of cement to 7 parts of water. These were referred to as 1:7, 2:7 and 3:7 charges. Both portland and sand cement were used—portland cement in tight and moderately tight holes, and sand cement where large fissures were to be filled. Sand cement was used wherever possible, as it apparently set as well as portland, mixed and handled better in the machine and was less liable to collect and choke, either in the machine or in the hole before the fissures were all filled.

The first charges were always of the 1:7 mix and usually began with a gravity head alone, continuing until the flow slackened to 1 gal. per min., when air pressures of 20 to 25 lb. were applied. These pressures continued until the flow again slackened, when pressures were gradually increased to the total amount available, when this could safely be used. It was noted that, when no external pressure existed, thin mixtures under low initial pressures had the greater radius of penetration.

Holes Were Tested for Tightness

Grouting was continued until no more grout would enter, or in connected fissure pipes until grout issued from adjacent pipes or openings in the rock beyond the concrete. Whenever possible, the operation was repeated after an interval of several days to insure a thorough filling of voids left by the excess water in the grout. While grouting, a continued lookout was maintained for grout, or air and water, coming out of surface openings near-by, and other evidences of its penetration. Holes in sandstone were usually easily grouted, for fissures in this class of rock were as a rule clean cut and well defined; on the other hand, holes in shale seldom took much grout, and seams and fissures were difficult to keep open until grouted.

After grouting, the holes were tested by filling them to the top with water and measuring the loss per hour, both under gravity and pressure. If the loss of water under pressure was greater than 3 gal. per 100 lb. pressure per hour, grouting was repeated. When the hole tested satisfactorily, it was filled to the top with thin mortar. Notes were kept of everything pertaining to the work, conditions, amount of grout, time, pressure,



SECTION SHOWS LOCATION OF TELLTALE WELLS AND GROUT HOLE

tests, material and labor. Cement was reported in units of sacks, water in gallons and air in cubic feet of free air.

Grouting was completed in August, 1916. A total of 267 holes was grouted, using 3029 sacks of portland cement and 6547 sacks of sand cement. Of these, 137 were drilled holes and 109 were fissures grouted through pipes. The maximum amount of cement in any one hole was 649 sacks, which was forced into a fissure.

Some Drainage Holes Show Seepage

The upstream row of drainage wells, as stated in a preceding paragraph, is 10 ft. downstream from the line of grouting holes, spaced 8 ft. apart and drilled 45 ft. into the rock below the base of the dam. The second row of drainage wells is about 5 ft. downstream from the first row, staggered with reference to them, but drilled only 5 ft. into the rock. In discussing the seepage, or flow, from these wells they will be referred to as U.S. and D.S., meaning upstream and downstream rows respectively.

The appearance of water flowing from the drainage wells was not unexpected. The first seepage detected was in March, 1915, from well No. 56 U.S. As soon as a well commenced discharging, it was plugged with a wooden stopper, in the center of which was screwed a piece of 1½-in. pipe, projecting vertically about 2 ft. above the hole, the upper end being fitted with a 90° elbow and a short

piece of 1¼-in. pipe. The stopper was set about 6 in. into the well and covered with cement mortar to the level of the floor. This confined the flow to a small stream that was readily measured. As the depth of water in the reservoir increased, other wells commenced discharging and were similarly treated.

The flow from Nos. 59 and 60 U.S. increased considerably after the drill hole below it was sunk, indicating that the drill had penetrated a rock seam connected with the reservoir. The record of No. 59 U.S. will be given in considerable detail, to show how the flow was finally stopped, or decreased to a negligible quantity, as this is typical of all holes similarly treated. Seepage was first noticed Apr. 26, 1916, and the well plugged the following day. Drilling operations disclosed the fact that Nos. 59 and 60 U.S. were connected. Prior to the drilling of No. 59 the flow in this vicinity was entirely from No. 60. This condition, however, was reversed after No. 59 was drilled. On Apr. 28 the flow from No. 59 was 22 gal. per min.; May 13, it was 27 gal.; May 19, it was 33 gal.; May 20, it was 56 gal.; May 24, it was 84 gal.; and on May 25, it was 85 gal., the maximum reached. At no time was there evidence of erosion; but to forestall any such action, it was decided to grout the hole. This was successfully accomplished on June 1, by forcing 121 sacks of portland cement and 29 sacks of sand cement into the well; all charges except the last were placed under gravity, the last charge being forced in under 110 lb. pressure. In August this hole was redrilled to its original depth, and a flow of 13 gal. per min. resulted. It was again grouted Sept. 10, when 46 sacks of cement were used. It was redrilled Sept. 28, the resulting flow being only 1.35 gal. per min. On Mar. 1, 1917, under about the same head, the flow was only 0.64 gal. per minute.

Few Drainage Wells Needed Grouting

Whenever a drainage well showed excessive seepage, grouting was resorted to, the result being that the total seepage, including percolation through the abutments, which were composed of very seamy rock, but thoroughly grouted, was reduced from a maximum of 120.3 gal. per min. to the present flow of 57.7 gal. per min., the height of water in the reservoir being practically the same. In every case the holes were redrilled after grouting. The maximum flow of 120.3 gal. from 230 drainage wells and both abutments, with a head of 125 ft. on 115 of the wells, is considered a remarkably good showing when the character of the foundation is known.

The drilling was done under the direct supervision of R. J. Schmalhausen, superintendent of construction. The bulk of the grouting was done by Victor Lieb, under the immediate direction of L. J. Charles, engineer, and later H. S. Stanton, assistant engineer. The entire work was done under the general supervision of the writer.

Tennessee To Build 2000 Miles of Roads

More than 2000 miles of new roads will be built in Tennessee during this spring and summer. Bonds have already been voted for this purpose and many counties have already sold the issues. Nine counties in East Tennessee are now advertising bond issues for sale, and the proceeds of which will be used on roads.

Milwaukee Air-Diffusion Studies in Activated Sludge

Problem Analyzed—Must Expose Large Air-Water Interface—Nozzles and Mechanical Beaters Eliminated—Fine-bubble Diffuser Plates Most Promising

By CARL H. NORDELL
Engineer of Designs, Milwaukee Sewerage Commission

THE article on "Air Diffusion in Activated Sludge," contributed by W. S. Coulter in *Engineering News-Record* of May 3, 1917, prompts the present writer to submit some of his own observations and experiments in the same field.

First, however, it is gratifying to learn that Mr. Coulter appreciates oxygenation of the water as the all-important point. There has in the past been altogether too much emphasis placed upon the agitation produced by the compressed air. The writer believes that the agitation in itself plays no useful part in the process except that of maintaining the sludge in suspension; and that it is a positive drawback when it becomes at all violent.

Mr. Coulter quotes Rideal as stating that ½ gal. of air is sufficient to oxidize completely the nitrogenous matter in 1 gal. of English sewage. When using 2 cu.ft. to the gallon, therefore, only some 3⅓% of the air would be utilized even for complete nitrification. This comparison, however, is not quite to the point and places the efficiency too high. The process can proceed without nitrification and would seem to be more nearly dependent upon the oxidation of the carbonaceous matter. No exact information as to the actual amount of oxygen required has been obtained, so far as the writer is aware. Some of the writer's research experiments, too tedious for detailed statement here, indicate that the treatment of Milwaukee sewage requires about 100 p. p. m. of oxygen. This would account for only about 1¼% of the oxygen in the air, as used at present. At any rate, there can be no question that the present methods of air application are extremely inefficient.

Increasing Air-Diffuser Efficiency

The problem of increasing this efficiency is stated by Mr. Coulter to be one of prolonging the contact of the air with the water. This is true if the qualifying phrase "without additional expenditure of energy" is added. One method of prolonging the contact is by using deeper tanks; but as the pressure of the air must be correspondingly increased, no very great gain is realized. Mr. Coulter proposes to prolong the contact by carrying the air downward through the water before permitting it to rise and, by means of his cone deflector, more or less "anchor" the bubbles, as it were, in descending streams of water. It would seem, however, that there is nothing to be gained by this procedure, for the energy expended in moving water against the bubble is exactly equal to that expended by a bubble moving against the water, and it is immaterial whether the energy is administered in the form of moving water or a constantly renewed stream of moving bubbles.

As for the jet-and-drive-pipe device, that is essentially a hydraulic compressor and possesses no advantage over

a mechanical compressor. Practically the same amount of energy must be supplied in either case. The jet and drive pipe, moreover, labors under a severe practical handicap. Mr. Coulter states that the drive pipe delivered air in the ratio of a volume of air to a volume of jet water at a depth approximating 70 to 80% of the kinetic head of the jet. These figures are not to be doubted, as they correspond well with the known efficiency of hydraulic compressors; but when we come to consider that the entire aërating mix would have to be sent through the jets 15 times for sufficient aëration, the difficulties are obvious.

Exposing Large Air-Water Interface

Mr. Coulter is on sure ground when he speaks of prolonging contact by subdividing the air into small enough bubbles so that their speed of ascent is lessened. The whole problem is one of exposing as large an air-water interface as possible in a given tank with a given rate of air feed. The more slowly the air escapes from the water the more of it will be in transit at any one time, and the finer the subdivision the more surface will this volume in transit expose. The total air-water interface for any given conditions of air feed and tank depth will vary inversely with the speed of the bubbles and with their diameter.

Experiments by the writer indicate that below a certain critical size of bubbles the speed falls off with the diameter. Hence, the efficiency of the air should increase with the square of the degree of subdivision. In other words, bubbles one-fourth the critical size would be 16 times as efficient as critical-size bubbles, from the standpoint of oxygen absorption. This presents very fascinating possibilities in economy, but subdivision and prevention of coalescence under the severe working conditions in the aërating tanks are not quite as easy as they may seem.

Critical Size of Bubbles in Water

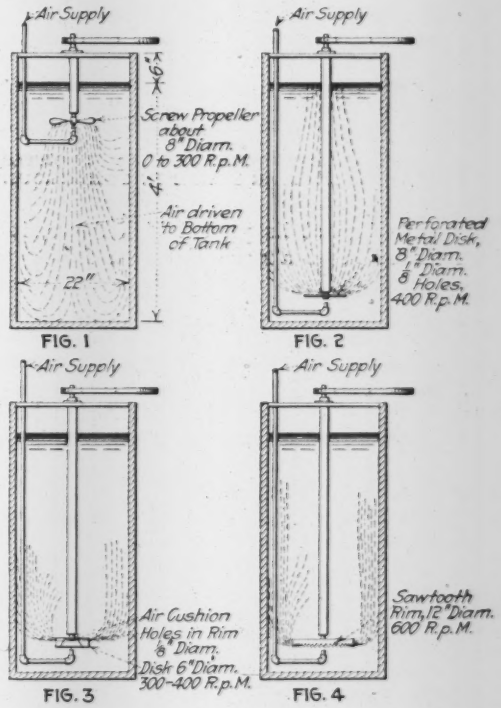
The critical size of bubbles in water is in the neighborhood of $\frac{1}{16}$-in. diameter. When larger than this, their velocity remains practically constant; when smaller, their speed, as has been stated, falls off directly with the diameter. Bubbles have a tendency toward a certain normal size, determined by the surface tension of the liquid. If they are larger than normal size, they tend to subdivide; if smaller, they coalesce. The normal size for water does not seem to be sharply defined, but lies somewhere between about $\frac{1}{16}$-in. diameter, or critical size, and $\frac{3}{32}$ in. It may be that normal size represents the establishment of truly spherical shape. Large bubbles are lenticular, and very large ones have irregular trailing faces; but the smaller ones appear to be truly spherical. Critical size seems to mark the transition from a corkscrew or zigzag ascent to a straight-line ascent.

As bubbles below normal size tend to coalesce, it is evident that fine bubbles cannot be concentrated too thickly. They must have a certain amount of room in which to maneuver. This makes it very difficult to get good results from any form of spray nozzle, such as used by Mr. Coulter, as the subdivided air must necessarily be delivered through a comparatively limited cross-sectional area; and the bubbles therefore coalesce to approximately normal size.

The writer performed a few experiments with spray nozzles and can corroborate Mr. Coulter's experience with them. The writer also tried mechanical beaters, etc., before the fundamental difficulty in delivering the subdivided air dawned upon him.

Several Devices Tried Failed To Break Up Volume of Air

It may be interesting to describe some of the devices used. The first was a screw propeller (Fig. 1). The air was well pulverized, if fed in very small amounts. Large amounts first made bigger bubbles and then very quickly stopped all propelling action of the screw by forming an air pocket around it. The revolving perforated disk shown in Fig. 2 was then tried. This did somewhat better, but the friction of the whirling disk was so great as to destroy any possible gain. The modified form in



MECHANICALLY OPERATED AERATORS TRIED IN MILWAUKEE ACTIVATED-SLUDGE STUDIES IN 1915 WERE NOT PROMISING

Fig. 3 and 4 were then employed with the idea of eliminating disk friction on the lower side by means of a partial or complete air cushion. Neither of these was successful in breaking up any respectable volume of air, the defect, of course, being inherent in the very principles involved.

In order to work the activated-sludge process with finely divided air, 25 to 50% of the tank area must be diffusing area or the bubbles will coalesce very rapidly, no matter how finely they may be subdivided to start with. It seems to the writer that this fact practically eliminates nozzles and mechanical beaters from consideration, and he has therefore devoted his time to the perfection of fine-bubble diffuser plates. These experiments are now practically concluded and will very shortly be ready for publication.

Concentrated Potash a Byproduct of Cement Mill

After-Treatment To Dilute Potash from Precipitation Process Gives 6 Lb. Potash per Barrel of Clinker

POTASH RECOVERY PLANT AT THE RIVERSIDE PORTLAND CEMENT CO.; EVAPORATING PONDS IN FOREGROUND

WITH potassium at its present high figure, it has been realized that a successful plan for recovery of this element as a byproduct in the manufacture of cement would prove most remunerative. Efforts to discover such a process have been redoubled of late, and success has finally come to the Riverside Portland Cement Co., located in southern California.

This company is now recovering 6 lb. of potassium sulphate for every barrel of clinker burned. This quantity at present prices is worth from 40 to 50c. per bbl. of cement produced. On the pre-war basis the same material would have a value of about 18c. per bbl., a figure which would still leave an attractive net profit, so that the new branch of the industry is not likely to be shortlived. The following statement was obtained by *Engineering News-Record* from John Treanor, manager of the Riverside Portland Cement Company.

Analyzing Material and Processes

Clays and shale suitable for portland-cement manufacture vary in K_2O content up to values as high as 2½%. During the past year many portland-cement raw mixtures from Eastern manufacturers were examined in the Riverside laboratories and were found to contain from 0.8 to 1.25% of K_2O.

In the ordinary burning of portland-cement raw mix, from 40 to 50% of potash content is volatilized and leaves the kiln with the kiln dust. This volatilized potash can be recovered in the form of a more or less dilute salt by the installation of suitable dust-collecting systems.

The amount of potash recovered depends upon the efficiency of the collecting devices. The efficiency of the electrical precipitators varies from kiln to kiln; the best individual kilns give results as high as 80% of the potash volatilized, while individual treaters over other kilns have an efficiency as low as 55%. A 100-ft. rotary kiln, for example, may produce anywhere from 4 to 7 tons of dust daily, whose average potash content may range between 4 and 10%.

The potash contained in this dust is usually water soluble; or if part is insoluble, it will be amenable to further chemical treatment. This potash containing dust recovered from the kiln gases can be sold as dilute fertilizer just as it is. In fact, such a byproduct is regularly being produced by the Security Portland Cement Co., at Hagerstown, Md. (*Engineering News*, Dec. 28, 1916, p. 1222), and by the Alpha Portland Cement Co., at its plant on the Hudson River.

Dust Used as Fertilizer

The use of this dust, however, is restricted to agricultural operations requiring a lime-base fertilizer. It cannot be conveniently used as an ingredient for a complete fertilizer, on account of its dilute form. The cost of freight upon 90% of inert material is burdensome, reduces the net selling price and limits the available market. The usual requirements for complete fertilization work is a salt whose K_2O content is not under 35%, and it is toward this ideal that efforts have been directed in striving for a process for recovering potash from cement plants.

The potash recoverable from all cement kilns under all conditions will be in the form of potassium sulphate. During the past five years the laboratories at Riverside have been working on the problem of deriving a more concentrated salt from this dust. One of the obstacles, however, was that only 50 to 55% of the total K_2O originally present in the dust could be extracted in water-soluble form.

Recently it has been discovered that the cause of this poor extraction was the formation of a double salt of potassium and calcium sulphate which at ordinary temperatures has a low degree of solubility. This double salt is the mineral syenite, occurring in nature. After the cause of the poor extraction was known, it needed but a step farther to remedy it; and it was finally found that by keeping the mixture at a minimum of 85° C. during the leaching and filtering process, and maintaining proper conditions of concentration, all of the water-soluble potash originally present in the dust could be recovered. Patent No. 1,220,989 is based upon this simple fact.

Percentages Recovered

For every 1% of K_2O in the raw mixture it would be theoretically possible with this process to recover 6 lb. of K_2O from each barrel of clinker, provided the volatilization is complete. Upon the pre-war basis of 3c. per lb., this would amount to 18c. per bbl., so that any economical means by which could be accomplished a better volatilization of K_2O from the clinker would be decidedly worth while. Working toward this end, a process was developed (patent No. 1,194,344) which makes use of calcium fluoride as a reagent for increasing the volatilization of potassium salts from the clinker and the regeneration of the reagent from the dust collected. This is accomplished as follows:

For every 1% of K_2O present in the raw mix, approximately 0.8% of calcium fluoride is added. This addition permits the formation of potassium fluoride, which is readily volatile and has a boiling point of about 850° C. The reaction between the calcium fluoride and the

potash in the raw mix, however, does not take place until a temperature of about 1100° C. is reached. At this temperature, which is far in excess of its boiling point, the salt will be rapidly expelled from the raw mixture and carried off with the gases of combustion and the dust.

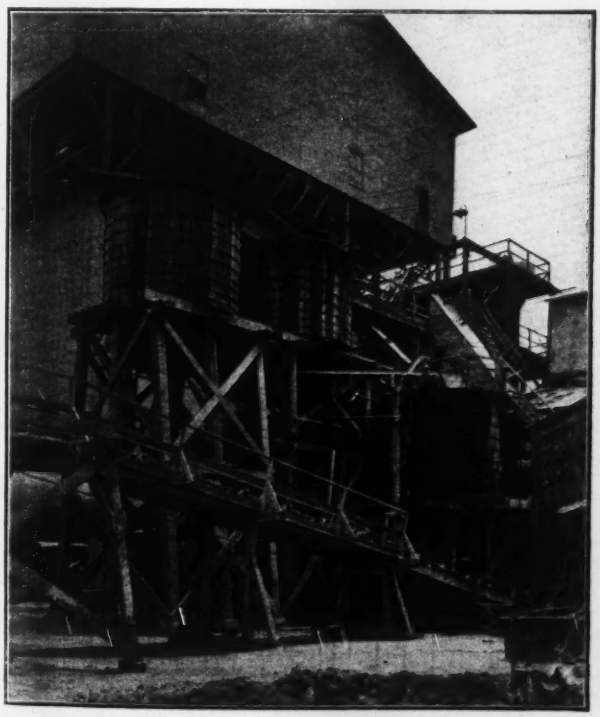
This volatilized potassium fluoride, however, does not persist in this form. It is more or less completely converted by the oxides of sulphur in the gases of combustion to potassium sulphate. This transformation is accompanied by the liberation of hydrofluoric acid, which is immediately neutralized by the lime compounds in the dust and is converted into calcium fluoride. This dust is then leached by the process already described, and the soluble potassium sulphate is separated from the insoluble calcareous and argillaceous material by filtration.

Results of the Process

The filter cake obtained by this operation is useful raw mix, containing in addition to cement-making substances all of the calcium fluoride originally used, and in addition to this the deleterious constituent, lime sulphate.

Originally it was attempted to enrich the dust by reburning it; and although this gave a very rich potash dust, the operation was extremely uneconomical. In fact, only 20% of the total potash fed into the kiln in the shape of stack dust and treater dust was volatilized. The remainder, or 80%, was driven into the clinker.

The cause of this was found to be the calcium sulphate present in the dust. In the presence of fluoride, however, the calcium sulphate decomposes, which discovery was embodied in patent No. 1,219,315. This reaction then makes it possible to again return the filter cake containing among other things the calcium fluoride to the raw mix where the calcium fluoride again performs its function of increasing the volatilization of the potash in the raw mix. By this cyclic process the volatilization at the Riverside plant was increased from 60 to 90%.



HOT WATER AND MIXING TANKS AND BELT DISPOSING OF FILTER CAKE

BAGGING THE CONCENTRATED POTASH FERTILIZER

Summing up the possibilities of recovery of potash as a byproduct in portland-cement manufacture, the experience at the Riverside plant indicates that 90% of the potash contained in the raw mix can be volatilized, 10% remaining in the clinker; 80% of the potash so volatilized in the kiln should be caught by the dust collectors. The net product, about 70% of the original input, will be still further reduced about 5% by losses in filtering. It has been demonstrated by the work at Riverside that it is entirely conservative to look for the recovery, in the form of concentrated salt, of 66⅔% of the potash originally contained in the raw cement mix, and it is quite possible that even these results may be improved upon by increase in the efficiency of the dust collectors. The resultant salt is received most enthusiastically by the fertilizer trade.

Mechanical Features of the Process

The dust is drawn from bins under the electrical treaters into tanks, where it is put into solution by agitation in water of not less than 85° C. at a concentration of not over 5% K_2O. The apparatus consists merely of cylindrical tanks some 12 ft. in diameter and 8 ft. high, which have on their axis a vertical shaft carrying ordinary propellers. The tanks are filled with water to a depth of about 6 ft., and the water is brought up to the desired temperature by means of steam injected into it.

The dust is then charged into this heated water, and the temperature rapidly rises to boiling point, due to the hydration of the lime contained in the dust. Samples are taken every few minutes, filtered, and specific gravity determined as well as percentage of solids. The potash goes into solution surprisingly fast under the conditions described. The whole operation of extracting the water-soluble potash from 7 tons of dust is accomplished in less than 50 min., and the whole control has reduced itself to a very simple basis.

As soon as a batch is cooked in one of the tanks, it is run by gravity into the filter reservoir under an Oliver filter press, where its temperature is maintained by steam coils, and the whole is kept at a homogeneous consistency by means of an agitator. The suction of the filter drum then forms a cake; and as the drum revolves, this cake emerges from the pulp and encounters a bank of hot-water sprays. Suction is applied automatically

after passing this point, to remove as much water as possible from the cake, which, when it reaches the horizontal position of the floor level, is scraped off by means of a plow.

The solution thus extracted from the cake is passed directly to storage tanks, which are at the same time settling and evaporating ponds by means of solar evaporation, which is very active in the dry climate of southern California. When the liquid has attained a specific gravity of about 1.1%, it is pumped to the evaporating pans, where the liqued level is maintained at a fixed point and the solution becomes more and more concentrated and the salt drops to the bottom. It is then raked out upon a drain board, where it is allowed to remain some minutes, and thence is deposited in a hopper, where draining continues for several hours. From this hopper it is passed through a rotary drier, thence through a Williams mill where it is reduced to the desired fineness; and finally the salt proceeds to a bin under the sacking machine.

Credit for the invention of the chemical processes employed belongs to Frederick W. Huber, chief chemist of the Riverside plant, and to his assistant, Frank F. Reath.

Diagrams Facilitate Design of Office Building and Mill Building Columns Under Eccentric Loads

Built-Up I-Sections of Typical Sizes Can Easily Be Selected When Length, Load and Moment Are Known

By W. S. WOLFE

Instructor in Architectural Engineering, University of Illinois, Urbana, Ill.

DIAGRAMS that are easily constructed and reduce to a marked degree the labor required in designing and checking columns subjected to combined axial and bending stresses, such as are produced by eccentric loads, are here shown for typical built-up I-sections.

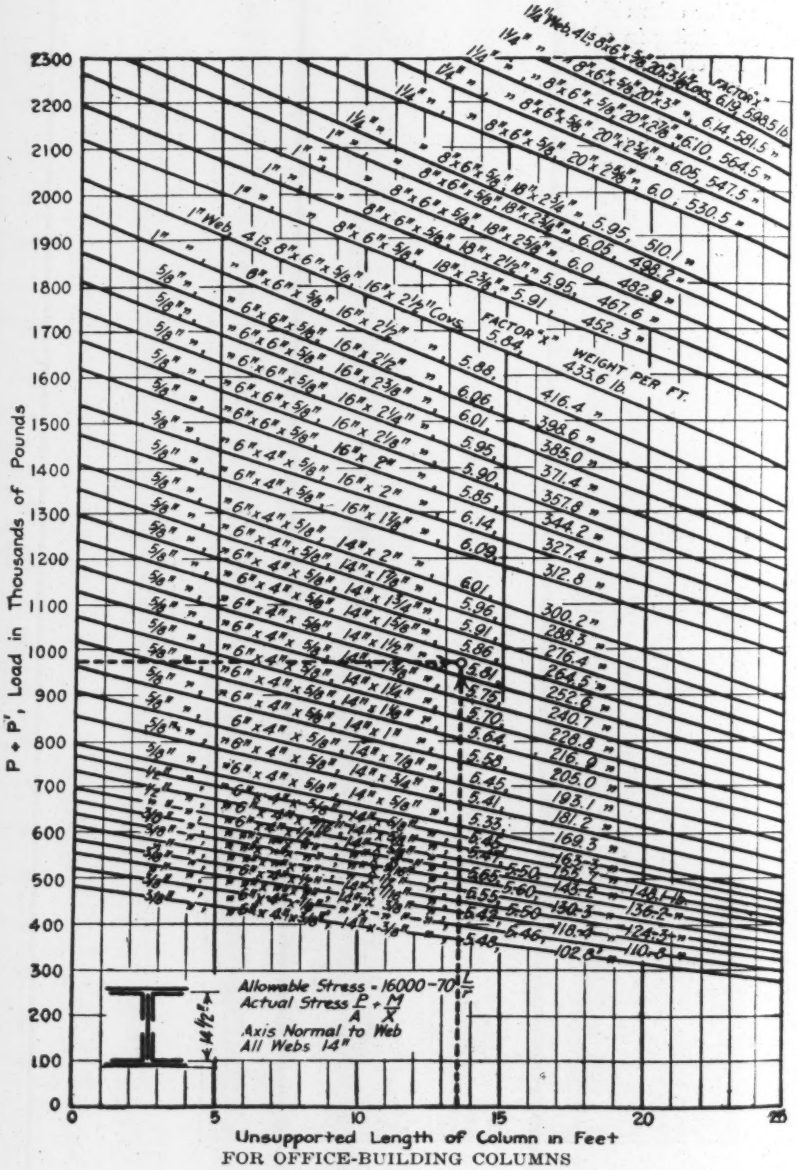
One diagram as reproduced is applicable to the design of mill-building bents, and the other to office buildings. No claim is made for completeness, as the variety and kind of sections is of course very large; but the simple principles upon which the construction of the diagrams is based are given. Hence, additional diagrams can be prepared by anyone to satisfy the particular types of column and column formula used.

Theory of the Diagrams

The approximate formula for maximum fiber stress f is

$$f = \frac{P}{A} + \frac{Mc}{I}$$

in which P is the total direct load in pounds; A, the area of the column section in square inches; M, the bending moment in inch-pounds; c, the distance to the extreme fiber; and I, the moment of inertia about the axis perpendicular to the plane of bending. Let P' be a direct load of such magnitude as to produce the same unit



FOR OFFICE-BUILDING COLUMNS

fiber stress as the bending moment M; that is,

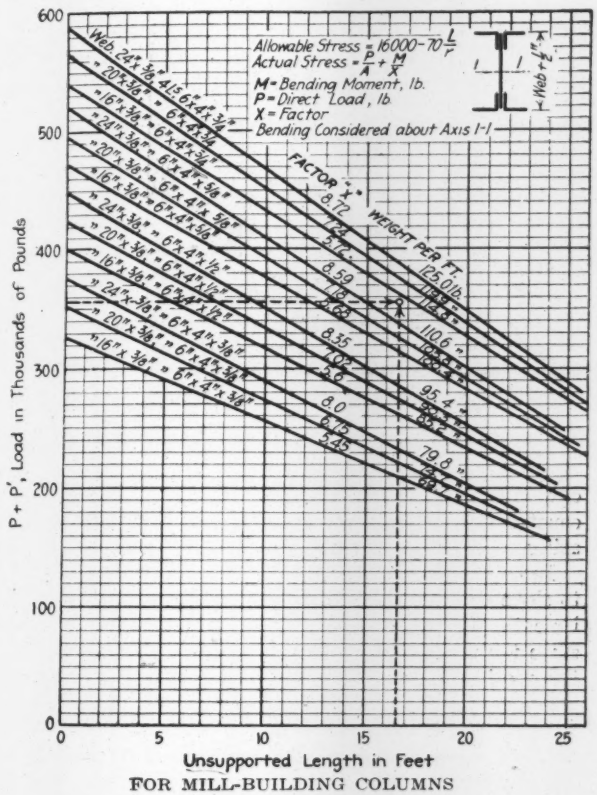
$$\frac{P'}{A} = \frac{Mc}{I}$$

or

$$P' = M \div \frac{I}{Ac} = \frac{M}{x}$$

if $I/Ac = x$, a variable depending only on the properties of the given sections.

Using the well-known straight-line formula for allowable unit stress, $p = 16{,}000 - 70L/r$, a diagram is



FOR MILL-BUILDING COLUMNS

constructed showing straight lines for allowable total load ($P + P'$) in terms of unsupported length L. On these lines the values of x are marked, also the weights per foot for comparison. The diagrams here shown have X computed for the neutral axes normal to the webs only.

How To Use Diagrams

The use of the diagrams either to investigate a given column or to select the proper section is almost self-evident. For example, given the section, direct load P, bending moment M and length: Find the line on the diagram which corresponds with the given section, read the value of x, divide it into M to get P', add the result to P and follow this sum $P + P'$ on this left-hand scale horizontally to intersect the vertical line for unsupported length. If the intersection is below the line representing the column, the allowable load is greater than the existing equivalent load, and the column is safe.

Similarly, if a column is to be designed for given loading, bending moment and unsupported length: Assume a section that seems reasonable, get the corresponding value of x from the diagram, compute $P + P'$ as before and obtain the intersection of the horizontal line for this load and the vertical for the unsupported length. If this intersection falls below the sloping line representing the assumed column, it is strong enough.

Of course, several sections may have to be tried, and the economical section will be found where the intersection and column line coincide. The advantage of the diagrams lies in the ease with which various sections can be investigated and the economical section obtained.

Effect of Fire on Reinforced-Concrete Buildings Analyzed

The destruction by fire of reinforced-concrete buildings at the plant of the Quaker Oats Co., Peterboro, Can., brings out some interesting points as to the effect of high temperatures upon structures of this kind. The fire and its effects were reviewed in *Engineering News-Record* of Apr. 5. The following additional notes are from a paper read before the Western Society of Engineers by T. D. Mylrea, engineer of tests of the City Architect's Department of Toronto, who made a thorough inspection of the buildings.

The intensity and duration of the fire are given as the main cause of the failure and collapse. It is estimated that temperatures of over 2300° F. were reached; and in the standing portion of the building the fire burned for several days, while in the collapsed portion there was considerable heat and fire even after two months. It is true that there was no fusion of the concrete, but this is due to the fact that the aggregate was limestone, which does not fuse.

In the Edison fire at West Orange, N. J., the aggregate was a variety of traprock that fused at about 2200°. In the Quaker Oats fire the 9-in. slabs heated to a degree sufficient to destroy the crystal form of the cement in the concrete and to reduce the strength of the reinforcing rods to practically nothing. Mr. Mylrea states that intensity of heat as the cause of failure of a concrete structure seems never to be considered.

"In the recent controversy over the recommendations of the Joint Committee on flat-slab regulations, both sides seem to have overlooked the effect of fire on the structures. All extensometer tests show that the stresses developed by a given load are less than the computed stresses, and this fact is variously assigned to 'dome action,' 'slab action' and 'tension resisted by concrete.' This fire brings forcibly to mind that it is possible for all these factors to be eliminated in an existing structure, and undue dependence should, therefore, not be placed upon them.

"As to the question of the amount of fireproofing required, the complete dehydration of the floor slabs proves that it is possible to raise the temperature of a 9-in. slab to 1250° F. completely through. This would show that it is possible to reduce the strength of the steel by about 50%, even if placed 4½ in. from the surface. The depth of calcination of the aggregate shows that a temperature of 2000° F. was reached at a point more than an inch from the surface. These facts show that it is impossible to afford absolute fire protection to the reinforcement and do so economically."

Bascule Bridge at Syracuse Typical of New York Canal Crossings

Skew of 23° Led To Using Fixed Floor Over Counterweight Pit —Small Movable Sections Along Girders Provide Clearance

By ARTHUR G. HAYDEN

Bridge Designer, Barge Canal Office, Albany, N. Y.

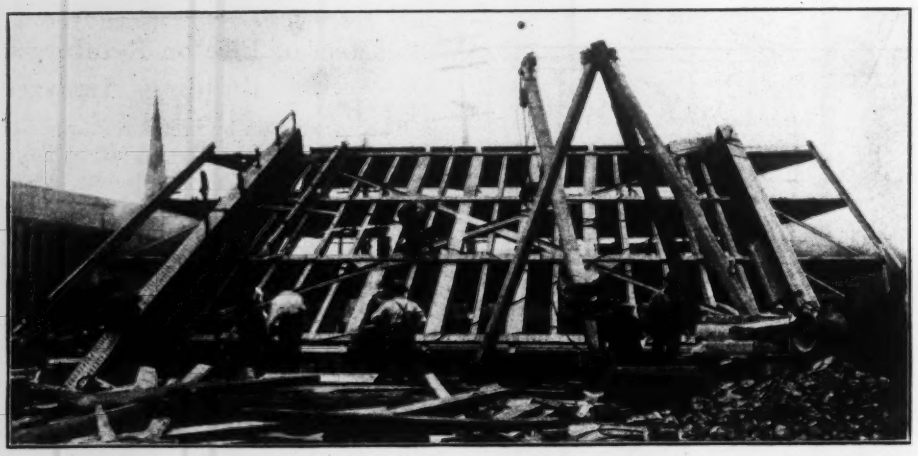


FIG. 1. SKELETON OF WEST GENESEE ST. SKEW BASCULE OVER ERIE CANAL AT SYRACUSE

SHORT-SPAN bascule bridges of the trunnion type, of which several have been built in recent years by the State of New York, often involve special problems. The most recent, the West Genesee St. bridge over the Erie Canal in Syracuse, N. Y., is complicated by a skew of about 23°, for which reason the floor over the counterweight pit was made stationary instead of part of the moving structure. The tail of the bridge is wholly below this floor (Fig. 1).

The arrangement of structural parts is shown in Fig. 3. The main girders (two) are supported on trunnion pins whose axes are in the same line and parallel to the front wall of the pit. The pins are therefore skew with the center line of the girders, which are supported on them by means of cast steel bearings (Fig 5) to which the pins are keyed.

The lift end of the bridge is parallel to the trunnion line, as are also the floorbeams, which makes the bending moments and consequently the counterweighting alike for the two girders. This condition would not hold if the intermediate floorbeams were placed square to the main girders.

The bridge is balanced by a concrete counterweight carried on extensions of the main girders back of the pins into the counterweight pit. The floor over the counterweight pit is stationary; it consists of longitudinal I-beams between which are sprung concrete arches.

Back of the trunnion pins the bascule girders descend through openings in the floor when the bridge is raised. This construction makes unnecessary a heel lock with its operating mechanism to carry the live-load back of the pin.

In consequence of the skew, the main girders are made to slope downward back of the pins as rapidly as possible beneath the pit floor. As the bridge is being raised, since the main girders do not rotate in their own planes, the motion of all points on each girder has a sidewise component out of the plane of the girder. Consequently a small triangular portion *MNO* (Fig. 3) of the floor back of the trunnion pins is made part of the moving structure to provide a clear opening for the parts of the girder above. The size of the moving sections of the floor is determined by the point where the girder passes beneath the pit floor when down and it is obviously of advantage to have this as small as possible, consistent with other clearances. In the case of square bridges the girders rotate in their own planes and may be carried to their full height to the back of the pit, the openings through which they descend being entirely in the sidewalks and equal only to the girder width plus clearance. (See description of Franklin St. bridge, Syracuse, *Engineering News*, Sept. 21, 1916.)

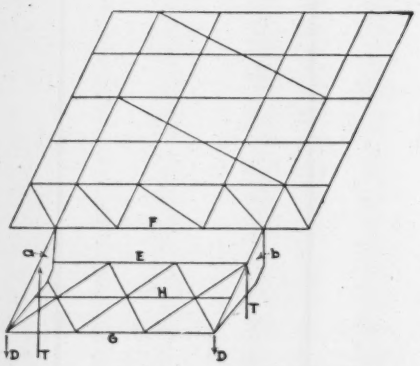


FIG. 2. SCHEME OF BRACING TO CARRY DEAD WEIGHT IN RAISED POSITION OF BRIDGE

On account of the skew, the lateral bracing performs an important function in carrying the dead-load of the bridge when raised, as will be seen from the diagram, Fig. 2, the plane of the paper being supposed vertical. Here the reactions at the trunnion pins are shown by *T*.

the counterweight loads by *D*, the trunnion end floor beam by *F*, and the limits of the lateral bracing back of the pins by *E* and *G*. The bridge floor proper ends at the front wall of the counterweight pit, finishing against an apron attached to the trunnion end floorbeam *F*. The front wall of the pit interrupts all steel work between *E* and *F* (see Fig. 1) except the main girders and parts of the wing girders *a* and *b*, for which recesses are made in the wall. The wing girders *a* and *b* are attached to the bottom flange of the main girders, are perpendicular to the main girders and when the bridge is raised carry the sidewise bending moments (due to the dead loads) across the gap between *E* and *F*, at which point the lateral bracing is interrupted.

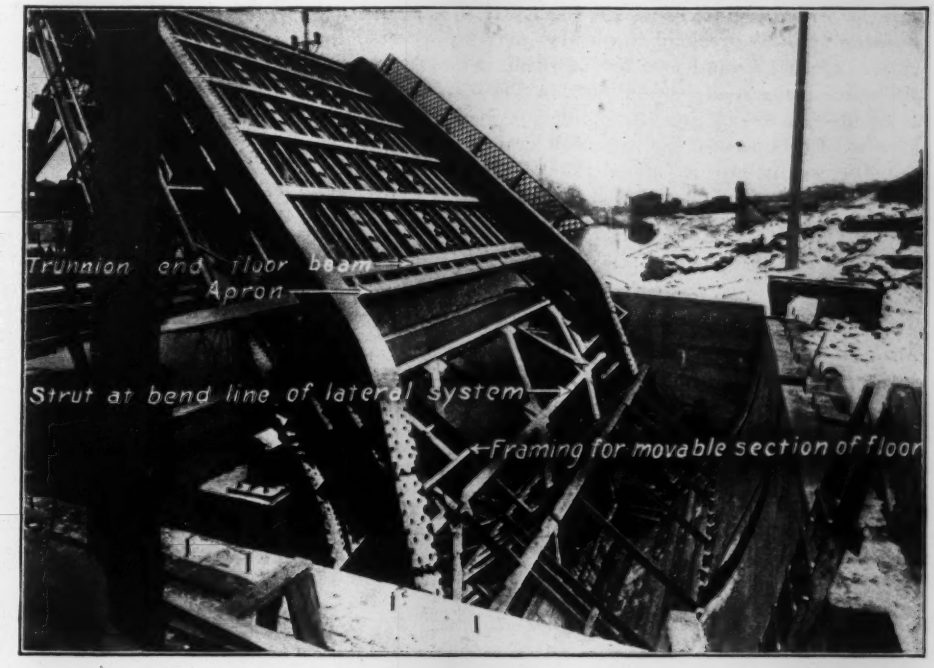


FIG. 4. TAILPIT DURING ERECTION SHOWS FORM FOR COUNTERWEIGHT

All lateral bracing is in the plane of the bottom flange of the main girders and is deflected downward at strut *H* (see Fig. 1) so as to terminate near the line of center of gravity of the counterweight. The lateral system is so designed that there is no computed component of stress perpendicular to the plane of the laterals at the bend line on strut *H*.

Two of the four lines of track stringers serve to carry the dead weight of the floor, when the bridge is raised, to the intersection points of the laterals in the fifth panel from the top and thence to the main girders.

The operator's house is placed on the side of the canal opposite the counterweight pit so as to obtain a clear view of the canal when the bridge is raised. All operating machinery (the racks excepted) is carried on the concrete counterweight and is a part of the moving structure. Two 20-hp. electric motors, placed at one end of the counterweight, drive through a train of gears the two rack pinions, which mesh with racks placed on the curved backwall of the pit. (See Fig. 3.) Each motor is operated by a drum controller having eight points forward and eight reverse, installed in the operator's house. The cable conveying the current from the controllers is carried through a tunnel under the bed of the canal. The cable terminates in a knife hinge, by means of which the current is delivered to the motors, one arm being attached to the front wall of the pit and the other to the moving part of the bridge.

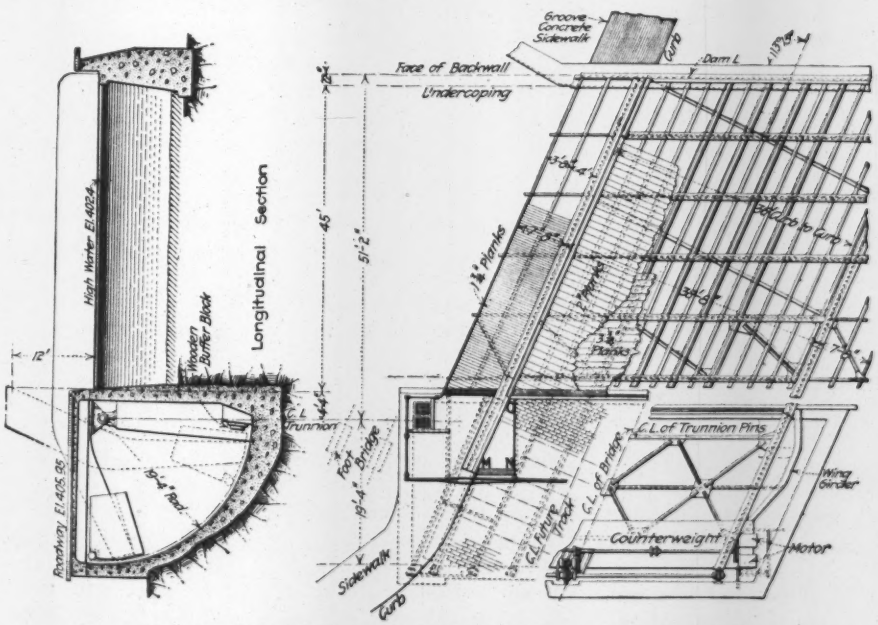


FIG. 3. GENERAL PLAN OF WEST GENESEE ST. BRIDGE

Each controller is equipped with a gear on the cylinder shaft meshing with an idler connecting the two gears. Each gear is in two concentric parts which will move independently of each other unless a pin is placed to lock them together, so that it is possible to operate either motor independently of the other, or both in parallel. Ordinarily both motors work together, but in case of accident to either the damaged motor may be thrown out of train

and the bridge operated with the other. With both motors working at 50% overload the bridge may be operated in 70 sec. against a wind pressure of 15 lb. per sq.ft., ample allowance being made for friction in the machinery.

In the closed position, the bridge is locked by means of a toe lock operated by rods, bell cranks and lever, of the type used in railroad signal towers. The lever, located near the controllers in the operator's house, is electrically interlocked with them, so that it is impossible to operate the bridge unless the bolt is in the withdrawn position.

Two mechanically operated safety gates are located at each end of the bridge. Those at the end near the operator's house are operated by rods, bell-cranks and a lever of the same type used for the lock bolt, and are mechanically interlocked with the lock-bolt mechanism to insure the gates being lowered before the lock bolt is withdrawn and not raised until the lock bolt is in the closed position. The two gates at the trunnion end of the bridge are operated by means of cables attached to the bridge counterweight.

Loading—The bridge was designed to carry the following loads at 16,000 lb. per sq.in. unit stress:

Two lines of 50-ton electric cars, with 25% impact; two 15-ton motor trucks on any part of the roadway, with 25% impact; uniform load of 150 lb. per sq.ft. on any part of the roadway not occupied by the concentrated loads; 100 lb. per sq.ft. of clear sidewalks.

Chicago Meters Only 21% of Its Water

Only 21% of the total amount of water pumped from Lake Michigan into the Chicago mains passed through meters in 1916. The city used an average of 620,000,000 gal. daily, equivalent to 249 gal. per capita and 2066 gal. per tap. Of the 20,768 meters in use, 1329 were put in service during the year; but the whole number covers only 6.9% of the service pipes, although 47.2% of the receipts are received from metered water.

Vagaries of Expansion and Contraction Movements

Unexpected irregularity of expansion and contraction movements in the steel-frame superstructure of the 3000-ft. municipal pier at Chicago is stated to have been one of the main causes of trouble with the concrete floor slab and concrete incasement of the steel floor-beams, noted in *Engineering News-Record* of Apr. 26, p. 829.

Expansion joints were provided at intervals of 100 ft., with provision for the steel longitudinal beams to slide upon their supports and for the concrete slab to move upon felt strips upon the floor-beams. The joints were designed to allow ample movement at each point. Actually, however, the movement of the steel frame did not distribute itself in this way, but concentrated at two of the expansion joints near the midlength of the pier and 100 ft. apart. Here, bolts in the slotted holes were sheared off, the movement being greater than that provided for by the slots, although the beams are stated to still have ample bearing upon their supports.

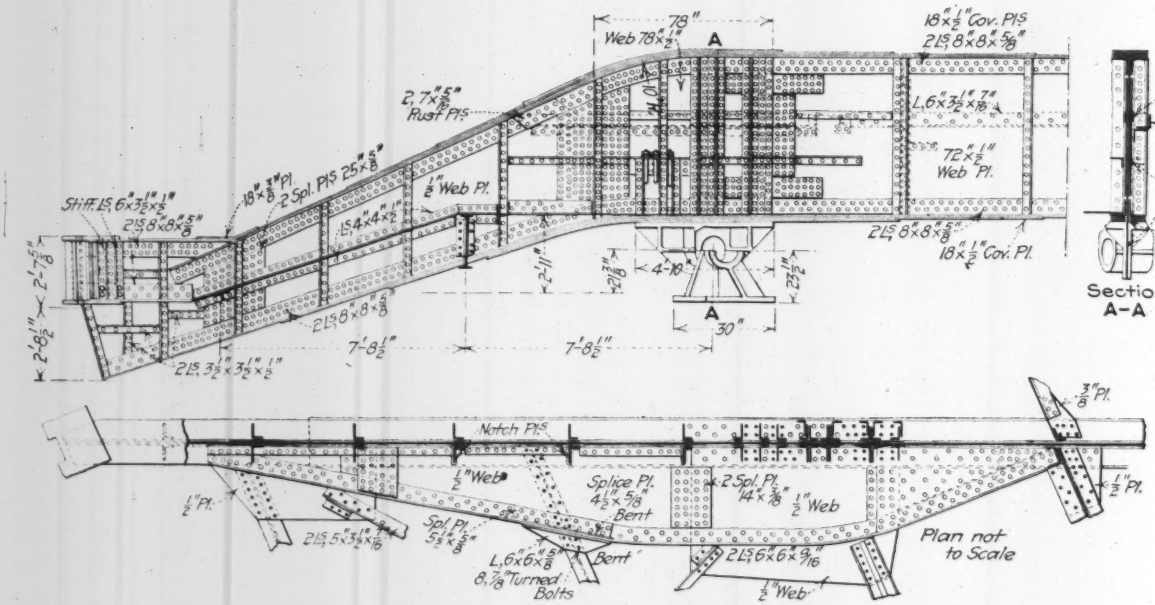


FIG. 5. TRUNNION AND GIRDER OF WEST GENESEE ST. BRIDGE

At other points the relative movement of the concrete slab on the steel framing was sufficient to crack the slab free from the concrete incasing the I-beams, as already described. It has been suggested that this trouble might have been avoided by making a joint in the concrete casing under the floor-beam as well as in the slab on top of the beam. On the other hand, it is thought that, with such irregular and unexpected movements as did occur, there would have been some trouble in spite of any such additional provision. Another afterthought was the placing of a small copper gutter under each expansion joint in the slab, to prevent any water from working down between the concrete and the steel. If such a plan had been proposed originally, it probably would have been considered unnecessary and its cost prohibitive, while its efficacy is held doubtful in view of what actually happened. In any case, as already explained, the troubles did not affect the strength or stability of the structure.

Dock Wall Built for a River-Front Building

Proximity to Seven-Story Structure at Chicago Made Underpinning Important Feature of Work

A 420-FT. concrete dock wall on the Chicago River has been built to improve the frontage of the J. V. Farwell & Co. property between Adams and Monroe Sts. The face of the wall being only about 8 ft. from a seven-story building, special care was necessary to avoid disturbance of the building foundations, which were strengthened in connection with the other work. The construction is shown clearly in the accompanying drawings.

The original dock wall or bulkhead consisted of a row of round piles 2 ft. apart, with timber cap and fenders, and was backed by three lines of 3-in. wood sheet piling to retain the fill. For the new work the piling was cut off about 12 in. below the water line, and a 12 x 12-in. wale was placed on the outside. When the work was ready for concreting, the sheeting was cut to grade. Fig. 1 is a typical section of the work.

To hold the piling in position while the building wall was being underpinned and the concrete placed for the dock, tie-rods were run from the waling timber to an anchorage behind the footings of the second row of interior columns of the building. The first row is only indicated on the drawing. This anchorage consisted of a pair of 12-in. steel channels laid flat, back to back, with steel separators between them so as to give room for the rods to pass through. The channels are embedded in concrete, which is filled in against the back of the footings in order to give ample bearing.

Timber forms were built along the front of the dock and anchored to the wall of the building. The water was not pumped out, the cutting of piles and placing of new wales being done in the water, only about 2 ft. below the surface. The concrete of the base of the wall was deposited in the water. The fill behind the old sheet piling was cleared away to a depth of about 18 in. below the water, and planks laid between the round piles served as the bottom for the front part of the form.

The concrete was a 1:3:5 mix (made with stone), care being taken to secure a dense mass and surface. It was made in a floating plant and spouted into place. The wall was built in sections about 50 ft. long. No fender timbers were placed along the face of the wall. Mooring posts were proposed, these being hollow castings fitted upon and grouted to pipe anchors embedded in the wall, as shown. However, the old snubbing anchors were used instead.

As noted above, the work included the strengthening of the foundations of the building. The front wall was carried by piles capped by a timber grillage above the water line and embedded in the earth-fill. This wall was underpinned to permit removing the grillage and cutting off the pile heads to about 1 ft. below water. Then a continuous concrete footing was put in, extending 6 in. below the tops of the piles. The interior columns had masonry footings in good condition.

For the permanent anchorage of the new footing and dock wall, 1¼-in. rods were run from the steel channel anchors, previously mentioned, to large washer plates embedded in the new concrete footing. Other rods are attached to similar plates in this footing and extend into the base of the concrete wall. At each column footing there are two tie-rods, which are cased in concrete. Between the footings of the first and second rows of interior columns the concrete casing is increased in width so as to form struts between the footings. In this way both rows of footings are utilized as anchorages.

At one corner of the building four caisson (or concrete-pier) foundations were put in on account of the necessity of cutting off the projecting footings of the north wall for placing the abutment for the new Monroe St. bridge. One of the concrete piers was placed beneath the corner of the building, two others about 18 ft. each way from the corner, with the fourth under a heavy vault. They carry the load to hardpan at a depth of about 65 ft. below water. The three outer piers are 5 ft. in diameter, belled out to a bottom diameter of 10 ft., where they rest on the hardpan. The pier under the interior corner is 4 ft. in diameter, belled out to a 6-ft. base. Lines of I-beams, embedded in concrete, rest on the piers and form girders to support the walls of the vault and building.

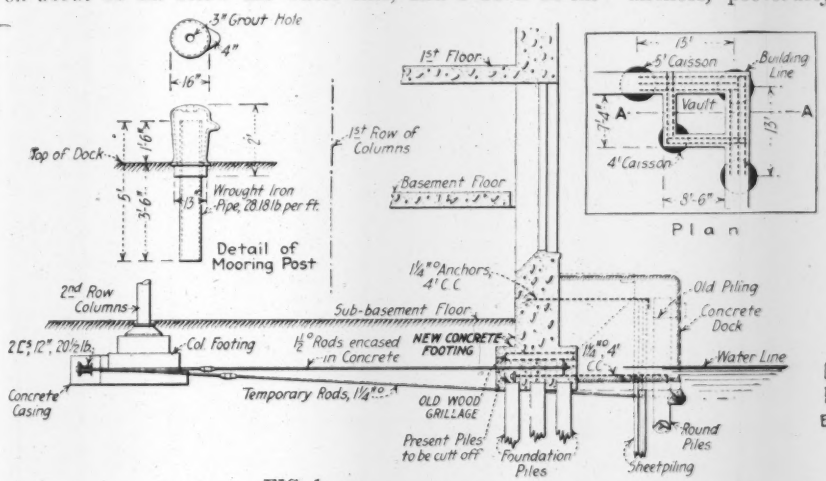


FIG. 1

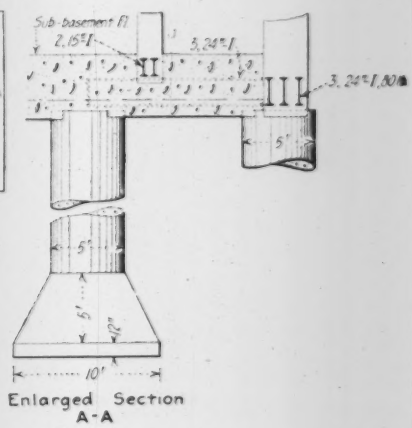


FIG. 2

FIG. 1. NEW RIVER-FRONT WALL AND UNDERPINNING OF BUILDING FOUNDATIONS. FIG. 2. CONCRETE PIERS CARRY CORNER OF SEVEN-STORY BUILDING

The dock wall and the reinforcement of the building foundations were designed by E. C. & R. M. Shankland, of Chicago, as consulting engineers for Perkins, Fellows & Hamilton, architects for the owner. The Ruud-Nilsen Co. had the contract and sublet the pile and concrete work to the Fitzsimons & Connell Dredge and Dock Company.

Busy Street Repaved Without Stopping Street-Car Traffic

Recut Granite Block Laid Between Rails—Asphalt Paving Is Used on the Main Roadway

REPAVING Gay St. with asphalt for the driveways and recut granite blocks for the car tracks in an important work now being carried out at Baltimore, Md. The street is 2¼ miles long, 28 to 49 ft. between curbs, and is one of the busiest thoroughfares in the city. The car line is mainly double track, but with some single track in the narrow portions. The old stone pavement has been in service about 35 years. It consisted of granite blocks 8 to 12 in. long, 4 to 5 in. wide and 6 in. deep, laid on a sand foundation and with sand filled in the joints.

In the new construction, the sides of the roadway are paved with asphalt on a 6-in. concrete base, there being a 1½-in. binder and a 1½-in. wearing surface. The old 6-in. granite curb is left in place, except where necessary to redress and reset it, but long-radius curb circles are being put in at all corners. Vitrified-block gutters about 12 in. wide are installed along the curbs. The track space between outer rails is paved with recut granite blocks on concrete, with cement filler, and two rows of granite-block liners are laid outside of each outer rail.

The street roadway is closed to traffic during the work, such crossings being kept open as may be necessary, and at least 14 days are allowed for the setting of the concrete base. The street-railway tracks are kept open for traffic throughout the repaving, this being made practicable by the use of a grouted stone ballast for their foundation. The work is divided between the contractor (for the city) and the street-railway company's forces.

Paving Done by the Contractor

The first work is the removal of the old blocks, which are loosened by means of 1-in. steel bars 6 ft. long, pointed at one end. They are hauled to adjacent lots, where they are recut for use in paving the track space. The blocks being removed, the contractor grades both the city's space and the track space down to the subgrade of the paving. He also adjusts the curb as required.

After the railway forces have done their work, as described below, and have brought the grouted ballast up to a level about 2 in. above the bottom of the ties, the contractor again takes charge. He dresses up the subgrade for the pavement and places the concrete base on the subgrade and over the grouted ballast of the track space. The recut granite blocks are then laid between the rails, the liner blocks are laid outside the outer rails, and the vitrified-block gutters are put in, all with a cement filler. After allowing 14 days for the concrete to set, the asphalt paving is laid in the roadways; and the street is opened for traffic as sections of this final work are completed.

Railway Work with Grouted-Ballast Base

When a certain amount of track space has been made ready by the contractor (as above), the railway forces take charge and grade it down to 6 in. below the bottom of the 8-ft. ties, to make room for the new ballast. The old 7-in. girder rails and hewed-pine ties are replaced with 7-in. grooved-girder rails secured to sawed-oak ties by screw spikes. The new rails and ties are placed at night (after midnight), so that cars can be operated. The next day the rails are spiked and splices bolted. Stone ballast for each track is dumped in place from cars on the other track, being distributed by moving the cars ahead while dumping. The track is then raised to grade and is lined and surfaced on the ballast.

After the track has been well tamped, mainly by compressed-air tools, a portable concrete-mixer outfit with gasoline engine is run alongside the track, and cement grout is spouted over the broken stone to fill all voids and form a grouted concrete base. The sand for this grout is dumped from cars and then shoveled over toward the curb to make room for the mixer. Wherever loose ties develop during the grouting, they are at once tamped to a solid bearing.

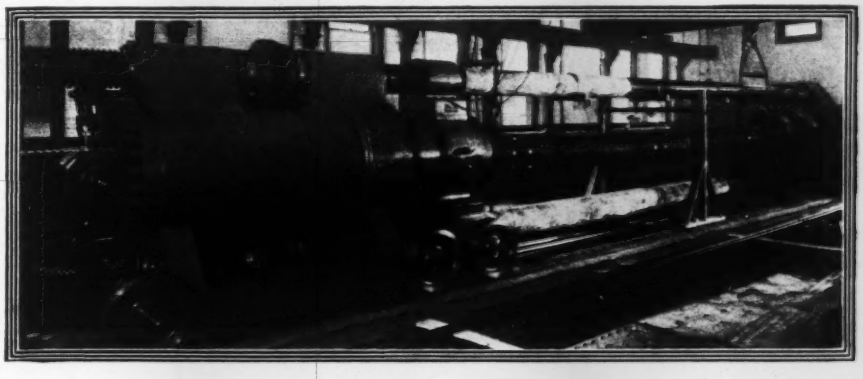
This improvement is under the jurisdiction of R. Keith Compton, chairman and consulting engineer of the Paving Commission of the City of Baltimore, with Frank K. Duncan as principal assistant. The contractor is the Baltimore Asphalt Block and Tile Co. The track work is being done by the United Railways and Electric Co., of Baltimore, with W. W. Wysor, acting chief engineer, and J. M. Hood, Jr., consulting engineer. The paving work, including that within the track space, will cost approximately $112,000, exclusive of track work.

Underground Streets Proposed for Chicago

The building of underground streets at Chicago for the use of street vehicles, electric cars and pedestrians is suggested by the Board of Local Improvements, in connection with rapid-transit developments. This step would make the proposed rapid-transit subways unnecessary. The work would be paid for partly by special assessment on the frontage property benefited and partly by drawing on the city's traction fund (55% of the net earnings of the street-railway companies) for such proportion of the cost as would represent special public benefit. The board, which deals with all improvements built by special assessment, states that its attorneys find it has the right to construct such streets by special assessment and to draw upon the traction fund as proposed.

The subway streets would extend between the property lines. Plans and estimates are to be prepared by the engineers of the board, after which public hearings will be held and an ordinance then prepared for action by the City Council. If this ordinance should be passed, the next step would be to petition the court for levying the assessment. The selection of the streets in which these municipal subways would be built will be left until after the public hearings. According to a published statement, the board considers that subways should not be built by public funds alone, but that property owners benefitted should be assessed.

Important Series of Steel Column Tests Establishes Principles of Strength



Reliable Data on Strength of Modern Steel Columns Provided by Over 200 Column Tests at Bureau of Standards—Strength Found To Depend on the Compressive Yield-Point of the Steel

THE completion of the remarkable series of column tests conducted at the Bureau of Standards during the past three years permits of presenting a brief summary of the results. This series, the largest consistent group of column tests ever made—in fact, virtually the only important modern series—lays a new experimental foundation for conclusions concerning the design and the strength of steel columns.

What the Results Demonstrate

The results demonstrate the reliability of steel columns, their efficiency in respect to utilizing the full strength of the steel, the weakness or inefficiency of tie-plated construction, and the unsuspected weakness which may be introduced by inherent qualities of the steel. It merits special remark that the tests are not only consistent but highly precise—due partly to the care used in the design, in choosing the material, and in manufacturing the columns, and partly to the skill and scientific procedure applied to the work of testing. The large Emery testing machine in the Washington laboratory of the Bureau of Standards made an excellent record of performance with these tests. Painstaking work was done by the testing laboratory force of the bureau, under the leadership of Dr. George R. Olshausen, Engineer-Physicist.

The strength figures obtained in the tests are available in entirety, though the full laboratory details have not yet been worked up. The strength figures have been published in part by the American Society of Civil Engineers and in part by the American Railway Engineering Association, whose committees on steel columns requested the tests. The results are here for the first time brought together.

Great Differences in Strength Found

The tests were based on the idea of securing uniform material for the entire series. Specifications for the steel were drawn with great care, and the limits of strength, qualities, etc., were set closer than those fixed by current commercial specifications. The mills which furnished the steel and the shops that fabricated the columns made conscientious efforts to furnish material of excellent quality, as uniform as it can be made, and yet of commercial grade.

The results indicate, however, that in spite of this fact there were very important differences of strength in the material. No one could have predicted in advance of the tests that a certain pair of columns, for instance, would not show substantially equal strength, whereas in the testing machine one of these was found to be over 30% weaker than the other. Such differences occurred again and again. They form the most prominent feature of the results of the tests. Equally large differences of strength may occur in the steel columns used in bridges and buildings, so far as any test knowledge goes.

Size and Character of the Columns Tested

The columns embraced in the tests ranged from 8.6 to 27 sq.in. in sectional area, or from less than 100 to several hundred tons ultimate load capacity. Their lengths, ranging up to 30 ft., were so chosen as to give ratios of total length to radius of gyration up to 155. The shortest were really short compression blocks, of length equal to 20 times radius of gyration. However, since the columns were tested with square ends and actually exhibited two points of inflection when loaded, the real slenderness-ratios (based on hinged or round ends) ranged from 10 to 75. In other words, the tests did not include columns as long as are allowed in standard bridge and structural practice.

Two different ideas were incorporated in the design of the test columns. The columns of one group, constituting the tests made for a committee of the American Society of Civil Engineers, were of solid section, that is without lattice, in order to furnish information on the dependence of column strength on slenderness ratio and on the shape of cross-section, and to eliminate as far as

possible the detail weaknesses likely to be present in columns assembled with lattice bars. For a like reason these columns were all tested with plain ends, the ends of the column shafts abutting directly on the heads of the testing machine; base and cap details being omitted, there was no opportunity for change in the conditions of the test on account of local yielding, except for actual body yielding.

The columns of the American Railway Engineering Association were built of open section, with connection by lattice and in some cases by tie-plates. The purpose was to deduce figures directly applicable to columns of the form most commonly used in structures other than buildings. Most of these columns were fitted with wing plates and bed or cap plates.

Tensile Tests Prescribed for Material

The material ordered for making the columns was specified to have an ultimate strength, in small-size tensile tests, of 58,500 to 61,500 lb. per sq.in. (as compared with 56,000 to 64,000 in ordinary practice) and a yield-point lying between 37,000 and 39,000 lb. per sq.in. (as compared with 36,000 in ordinary practice). Except for the divergences expressed by these figures, it is identical with regular bridge and structural steel. The control of chemical composition and rolling was in the main left to the mill, the mechanical test requirement being the governing one. These requirements applied to all material, irrespective of thickness or shape.

The analyses showed that practically no chemical differences existed, so that the securing of equal yield-point in the thick and the thin material must be credited to differences of procedure in the rolling mill.

Special attention should be given to the fact that the various lots of steel were made alike in tensile properties but could vary in other respects. The sequel showed that they were very far from being equal in compressive properties.

How the Tests Were Made

To prepare a column for testing, its ends were milled exactly square in the Bureau of Standards shop; as milled in the bridge shops, the ends were not sufficiently square and true for good bearing in the machine. The testing machine has only one adjustable head, and the rigid head obviously requires a truly square column-end if correct axial alignment is to be secured. The milling machine used was equipped with a special carriage running on rails bedded in the shop floor at right angles to the milling machine slides, and by clamping the column against stops on this carriage its axis was placed at right angles to the cutter-head plane.

Concentric circles inscribed on the faces of the testing machine head furnished means for centering the ends of the column quite perfectly. When in position the column was clamped by applying a load of 1000 lb. per sq.in. of cross-section. Columns having a slenderness ratio greater than 50 were counterweighted at mid-length to the amount of half the column weight.

Five Extensometers Applied

Five extensometers were applied, one at each corner and one in the middle of the top face of the column. These were roller extensometers of the Howard design read by Ames dials, attached to extension bars to span various gage-lengths up to about 20 ft. Near the ends and center, shorter-length strain measurements were made at eight pairs of gage points on 8-in. gage lengths with Berry strain gages. Attachments were made to register the center deflection of the column in two directions at right angles to each other, by means of dial gages.

The test routine was such that measurements of the set or non-elastic compression were obtained in sufficient number to permit plotting a set curve. Generally, the testing program called for running the load up by increments of 5000 lb. per sq.in. between releases (and 1000-lb. increments above 15,000 lb.), to the first pronounced change in the rate of compression. The load was then run up continuously to the maximum.

All columns were in triplicate, there being three of each length and shape. In each case one of the three was compressed considerably beyond the failure point in order to emphasize the type of buckling developed.

Normal and Abnormal Kinds of Buckling

Illustration of what was obtained by the excess deformation is furnished in the view, Fig. 1, showing columns after testing.

Integral buckling of the columns was by far the most common manner of failure, not merely at maximum load but even under the additional compression. The curve assumed by the column in such a case is exemplified by the photographs *B* and *F*, Fig. 1. Both the solid-section columns and the latticed columns failed by bodily buckling. None showed evidences of local failure (as at the end-connection wing plates, in the lattice, or in the unsupported lengths between lattice bars) prior to the point where maximum load was reached. Further, most of the columns when forced far beyond the failure point buckled into a smooth curve, showing that they developed the full efficiency of the column.

While local or detail failure was rare, some of its manifestations were of noteworthy character. The tie-plated columns of the A.R.E.A. series failed in most cases by buckling between the batten plates. That they did not utilize the strength of the metal in full degree is proved more definitely by the ultimate strengths (Table II), which show surprisingly low figures for all these columns. On the average, the tie-plated columns were only half to two-thirds as strong as latticed columns of equivalent size and length. But as explained in a footnote to Table II, the tie-plate spacing was in all cases so wide as to make the slenderness-ratio of the individual channel between tie-plates much larger than that of the whole column.

A New Phenomenon—Rotary Buckling

All the Z-bar columns of the thin sections failed in the curious manner shown by *A* in Fig. 1. The middle rotated around the column axis, while the ends (held by the machine heads) stayed in original position.

This twisting appeared to be a rotary buckling. The four outstanding legs of the Z-bars tend to buckle, and this tendency produces a tangential reaction around the column axis as center of twist. If two of the four Z-bars should tend to buckle in one direction, and two in the other, balance might exist; in all other cases the net result would be a tendency to twist the middle part of the column relative to the ends. When the twisting moment becomes great enough to overcome the torsional resistance

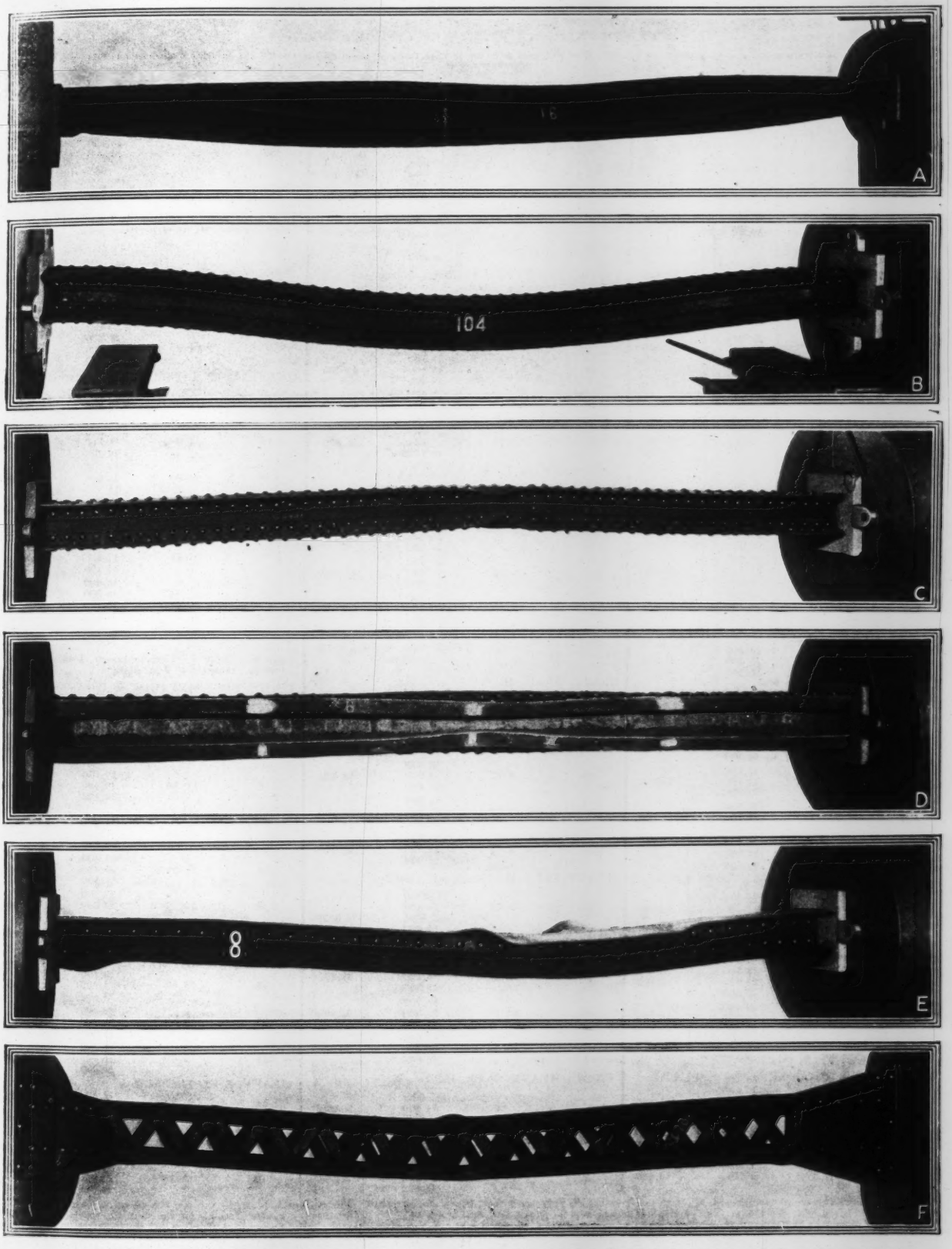


FIG. 1. SIX VIEWS SHOWING THE MANNER OF FAILURE AFTER EXCESS DEFORMATION IN THE MACHINE

A—Twisting buckling of light Z-bar columns. B—Integral flexural buckling. C, D and E—Local kinking of weak flanges. F—Integral buckling of latticed columns with local kink just starting

TABLE I. TESTS OF SOLID-SECTION COLUMNS; 198 TESTS MADE IN CO-OPERATION WITH A COMMITTEE OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS

NOTE—The slenderness-ratios in the tables are abnormal, as the tests were made with truly squared ends. Divide the tabular slenderness-ratios by 2 to get the pin-end values.

Slenderness Ratio l/r	Nominal Area of Cross-Section, Sq.In.	Ultimate Strength, Lb. per Sq.In.	Average
Type 1, Light; Type 1a, Heavy; Type 1b, Extra Heavy		Plate-and-angle I-section; 1 plate 6 in. wide, 4 angles 5x3 in.	
LIGHT, $\frac{3}{16}$-IN. METAL			
		[37,000]	
		38,400	
		[37,000]	[37,000]
20	11.475	38,200	38,200
		[37,000]	
		38,000	
		32,400	
50	11.475	32,800	32,700
		33,000	
		32,100	
85	11.475	31,400	31,200
		30,000	
		28,600	
120	11.475	27,600	28,300
		28,700	
		27,000	
155	11.475	25,600	26,200
		26,000	
HEAVY, $\frac{1}{4}$-IN. METAL			
		[29,000]	
		43,200	
		[30,000]	[29,300]
20	22.19	43,300	43,600*
		[29,000]	
		44,300	
		29,000	
50	22.19	28,900	29,200
		29,700	
		28,000	
85	22.19	28,200	28,100
		28,000	
		25,000	
120	22.19	25,500	25,400
		25,800	
		22,200	
155	22.19	23,200	22,700
		22,600	
EXTRA HEAVY, $\frac{1}{2}$ AND $\frac{3}{4}$-IN. METAL			
		28,200	
85	28.61	27,000	27,700
		28,000	
Type 2, Light; Type 2a, Heavy		Box section; 2 6-in. channels, 2 8-in. plates.	
LIGHT, 10½-LB. CHANNELS, $\frac{1}{4}$-IN. PLATE			
		33,100	
50	10.18	34,000	33,900
		34,500	
		33,700	
85	10.18	32,300	32,600
		31,700	
		28,300	
120	10.18	28,700	29,300
		30,900	
		26,100	
155	10.18	27,800	26,500
		25,600	
HEAVY, 15½-LB. CHANNELS, $\frac{1}{4}$-IN. PLATE			
		32,200	
50	17.12	32,500	32,300
		32,500	
		30,700	
85	17.12	30,000	30,600
		31,000	
		28,500	
120	17.12	28,800	28,100
		27,000	
		24,700	
155	17.12	26,000	25,200
		25,000	
Type 3, Light; Type 3a, Heavy		Box section; 2 5-in. channels, 2 9½-in. plates	
LIGHT, 6½-LB. CHANNELS, $\frac{1}{4}$-IN. PLATE			
		33,800	
50	8.65	34,300	34,100
		34,300	
		32,500	
85	8.65	31,800	32,400
		33,000	
		31,600	
120	8.65	30,200	30,600
		30,000	

Slenderness Ratio l/r	Nominal Area of Cross-Section, Sq.In.	Ultimate Strength, Lb. per Sq.In.	Average
HEAVY, 11½-LB. CHANNELS, $\frac{1}{4}$-IN. PLATE			
		29,800	
50	16.26	29,300	29,500
		29,500	
		28,000	
85	16.26	28,000	28,000
		28,000	
		28,000	
120	16.26	26,100	26,900
		26,600	
Type 4, Light; Type 4a, Heavy		I-and-channel section; 1 8-in. I-beam, 2 8-in. channels.	
LIGHT, 18-LB. I, 11½-LB. CHANNELS			
		35,700	
50	12.03	36,500	36,900
		38,600	
		34,000	
85	12.03	33,900	34,000
		34,000	
		32,000	
120	12.03	30,700	31,900
		33,100	
		24,000	
155	12.03	23,200	23,600
		23,500	
HEAVY, 20½-LB. I, 18¾-LB. CHANNELS			
		30,300	
50	17.05	29,000	29,100
		28,000	
		26,000	
85	17.05	26,400	26,600
		27,500	
		23,500	
120	17.05	23,900	23,900
		24,200	
		23,900	
155	17.05	23,000	23,300
		23,000	
Type 5, Light; Type 5a, Heavy; Type 5b, Extra Heavy		Bethlehem H-section; 8-in. H-beam.	
LIGHT, 32-LB. H			
		[39,000]	
20	9.17	39,600	[39,600]*
		[40,000]	
		41,000	40,500
		[40,000]	
		41,000	
		38,000	
50	9.17	38,000	38,000
		38,000	
		36,000	
85	9.17	34,000	34,300
		33,000	
		31,000	
120	9.17	33,900	32,000
		31,000	
HEAVY, 62-LB. H			
		[35,000]	
20	18.27	35,600	
		[37,000]	[36,000]*
		37,800	37,000
		[36,000]	
		36,700	
		34,000	
50	18.27	36,100	35,400
		36,000	
		33,900	
85	18.27	32,000	32,300
		31,000	
		30,000	
120	18.27	30,000	30,000
		30,000	
EXTRA HEAVY, 91-LB. H			
		[25,000]	
		54,800	[25,300]*
		[26,000]	
20	26.64	56,600	55,300
		[25,000]	
		54,500	
		27,100	
50	26.64	24,000	25,200
		24,600	

Slenderness Ratio l/r	Nominal Area of Cross-Section, Sq.In.	Ultimate Strength, Lb. per Sq.In.	Average
		24,800	
85	26.64	22,500	23,400
		23,000	
		21,800	
120	26.64	21,000	21,300
		21,000	
Type 6, Light; Type 6a, Heavy		Reinforced I-section; 10-in. I, 2 11-in. flange-plates.	
LIGHT, 25-LB. I, $\frac{3}{16}$-IN. PLATES			
		31,200	
50	14.25	31,500	31,600
		32,200	
		27,800	
85	14.25	29,500	29,100
		30,100	
		26,700	
120	14.25	27,700	27,200
		27,300	
HEAVY, 35-LB. I, $\frac{1}{4}$-IN. PLATES			
		31,200	
50	24.04	32,800	32,100
		32,400	
		27,200	
85	24.04	26,800	26,800
		26,400	
		24,900	
120	24.04	24,000	24,800
		25,500	
Type 7—Bulb-Angle Column Section; 6x$\frac{3}{16}$-in. plate, 4 5-in. by 10.1-lb. bulb angles.			
LIGHT			
		34,300	
50	13.76	32,700	33,400
		33,200	
		34,000	
85	13.76	30,000	31,600
		30,700	
		28,300	
120	13.76	26,900	28,100
		29,000	
Type 8, Light; Type 8a, Heavy		Z-bar column; 4 4-in. Z-bars, 1 7-in. plate.	
LIGHT, $\frac{1}{4}$-IN. METAL††			
		35,900	
50	11.39	35,100	35,700
		36,200	
		31,400	
85	11.39	32,900	32,800
		34,000	
		29,100	
120	11.39	29,400	29,700
		30,400	
HEAVY, $\frac{1}{4}$-IN. METAL			
		33,000	
50	26.58	33,500	32,900
		32,200	
		31,300	
85	26.58	25,300†	29,400
		31,500	
		27,500	
120	26.58	27,000	27,300
		27,500	
Type 10, Light; Type 10a, Heavy		Built-up box section; 4 angles 2x2-in., 2 plates 9-in.	
LIGHT, $\frac{1}{4}$-IN. METAL			
		36,100	
50	10.89	35,700	35,800
		35,600	
		32,500	
85	10.89	31,900	32,100
		31,900	
		28,400	
120	10.89	28,300	28,400
		28,400	
HEAVY, $\frac{3}{16}$-IN. METAL			
		31,400	
50	18.71	32,000	31,800
		32,100	
		28,000	
85	18.71	28,000	28,300
		29,000	
		27,000	
120	18.71	25,900	26,300
		26,000	

* Test values for slenderness-ratio 20 (or pin-end value 10) represent short-block compression. The ultimate strengths include the effect of plastic squeezing in the heavy and extra-heavy sections. The yield-point values are, therefore, added in brackets [ ]; they are the values of basal column strength, for comparison with the ultimate strengths of the longer columns.

† No explanation for this abnormal figure was discoverable.

†† The light Z-bar columns failed by twisting (A in Fig. 4), but a strength-reducing effect of this action is not detectable in the results.

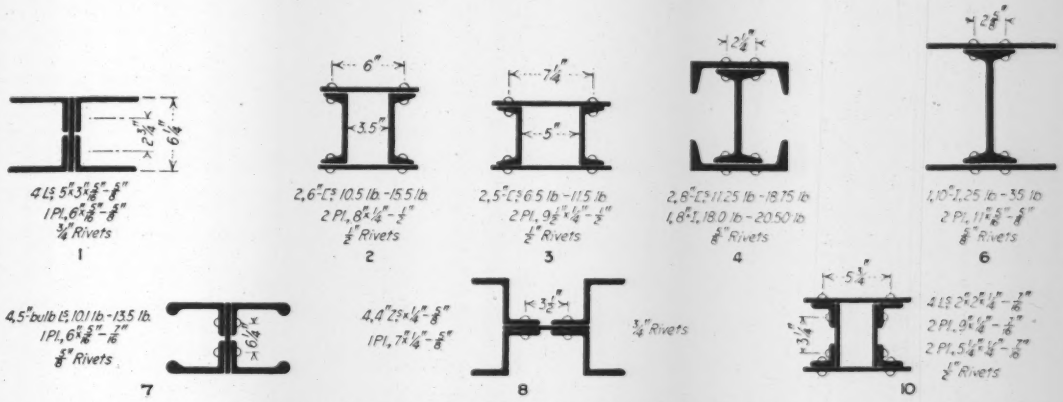


FIG. 2. TESTS OF SOLID-SECTION COLUMNS SHOWED NO INFLUENCE OF SHAPE OF SECTION. TESTED IN LENGTHS OF 50 TO 120 R, WITH SPECIAL TESTS AT LENGTHS 20 AND 155 R

TABLE II. TESTS OF 8-IN. CHANNEL COLUMNS, LATTICED AND TIE-PLATED IN VARIOUS WAYS; 42 TESTS

Made in Co-operation with a Committee of the American Railway Engineering Association

NOTE—The slenderness-ratios in the tables are abnormal, being computed as pin-end values, while the tests were made with truly squared ends. Divide the tabular slenderness-ratios by 2 to get the pin-end values.

All light columns, 2 channels 8 in. by 16½ lb. per ft.
All heavy columns, 2 channels 8 in. by 21½ lb. per ft.
Flanges turned in, spacing 10¼ in. back to back.

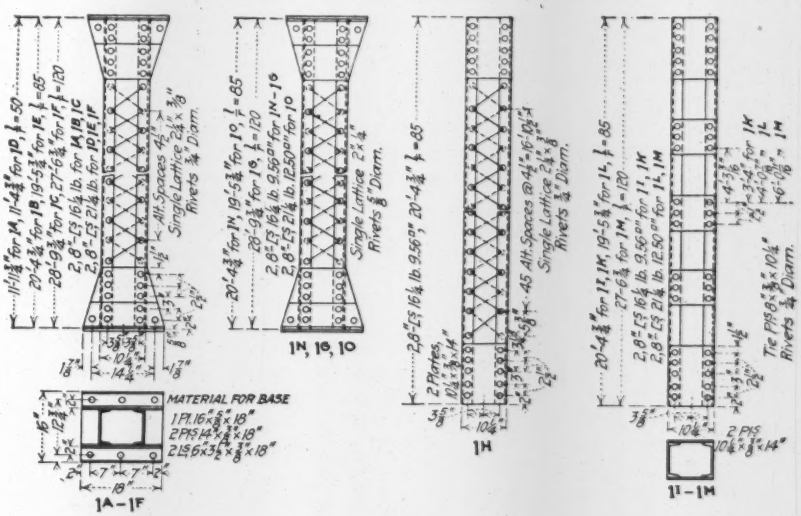


FIG. 3

Tests of latticed and tie-plated columns showed tie-plated columns to be weak—tested in lengths of 50 to 120 r

LATTICED COLUMNS WITH HEAVY LATTICE

Single Lattice 2½x¼ in., alternate spacing 4½ in., ¾-in. rivets

Slenderness Ratio l/r	Nominal Area of Cross-Section, Sq.In.	Ultimate Strength, Lb. per Sq.In.	Average
LIGHT			
		37,900	
1A 50	9.56	39,300	38,500
		38,200	
		32,900	
1B 85	.....	35,000	34,000
		34,100	
		33,000	
1C 120	.....	32,000	33,000
		34,000	
HEAVY			
		38,500	
1D 50	12.50	37,800	37,200
		35,400	
		34,000	
1E 85	.....	34,900	34,300
		34,000	
		32,600	
1F 120	.....	29,000	30,800
		30,900	

LIGHT, WITH PLAIN ENDS

		33,900	
1H 85	9.56	33,900	33,900
		33,900	

LATTICED COLUMNS WITH LIGHT LATTICE

Single Lattice 2x¼ in., alternate spacing 4½ in., ¼-in. rivets

LIGHT			
		33,600	
1N 85	9.56	33,500	33,800
		34,200	
		34,200	
1G 120	.....	32,000	33,100
		33,000	
HEAVY			
		32,200	
1O 85	12.50	31,000	31,900
		32,400	

TIE-PLATED COLUMNS, 8x¼-IN. TIE-PLATES 10¼ IN. LONG

Three Tests, long spacing: distance between nearest rivets such that l/r (pin-end) for one channel equals l/r (square-end) for whole column.

One Test, short spacing: tie-plates spaced about ½ as far as in the preceding.

LIGHT			
		27,000	
1I 85	9.56	25,100	25,400*
		24,000	
HEAVY			
		24,200	
1L 85	12.50	23,100	24,100*
		25,000	
		15,000	
1M 120	.....	15,200	15,100*
		15,100	
LIGHT, SHORT SPACING			
		27,000	
1K 85	9.56	26,000	26,900*
		27,800	

* The tie-plate spacing represents pin-end slenderness-ratios exceeding those of the entire column by 50 to 100%. In the strongest of these tests, 26,900 for pin-end ratio of 42½, the tie-plate spacing gives a ratio in the individual channel of 65. In the lowest, 15,100, the column has pin-end ratio 60, while the channel ratio is 120.

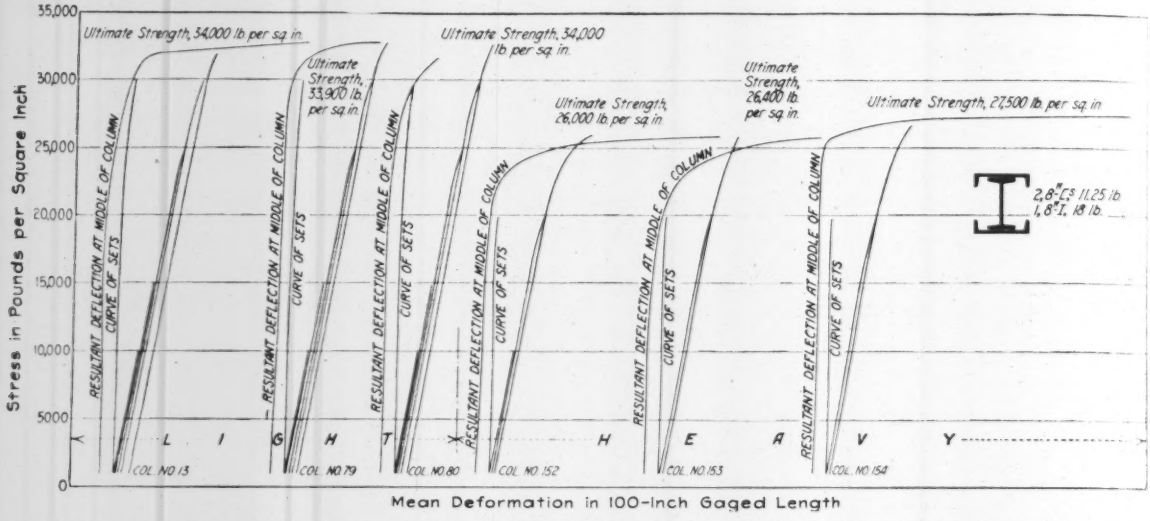


FIG. 1. TYPICAL TEST-CURVES OF SOLID COLUMNS SHOW EXCELLENT ELASTIC QUALITIES, WITH YIELD-POINT CLOSE TO ULTIMATE

of the column core, it would produce rotation like that actually observed.

The remarkable fact is that all the light-section Z-bar columns, without exception, failed by twisting after passing the ultimate strength, while all the heavy-section Z-bar columns buckled bodily by flexure without twist.

While rotary or torsional buckling is not treated in the theoretical discussions of column behavior, it has been observed before the present series of tests. J. E. Howard, for many years testing engineer at the Watertown Arsenal, found this kind of failure in a set of Z-bar columns tested in 1891 for the Carnegie Steel Co. (This is stated by Mr. Howard; the Carnegie Steel Co. has no record of such tests, although its drawing files indicate that 22 Z-bar columns were made early in 1891 for testing.)

Failure of outstanding flanges was made apparent in a number of the channel columns, and in a few of the plate-and-angle I-section columns, by the excess straining subsequent to maximum load. The views *C, D, E* of Fig. 1 show instances of localized buckling. How much influence this had on the strength of the columns is not known, as no local failure was observed until long after passing the ultimate strength. The tables of results indicate, however, that such influence was negligible.

The bodily buckling and the absence of local weakness demonstrated that the columns secured the full efficiency

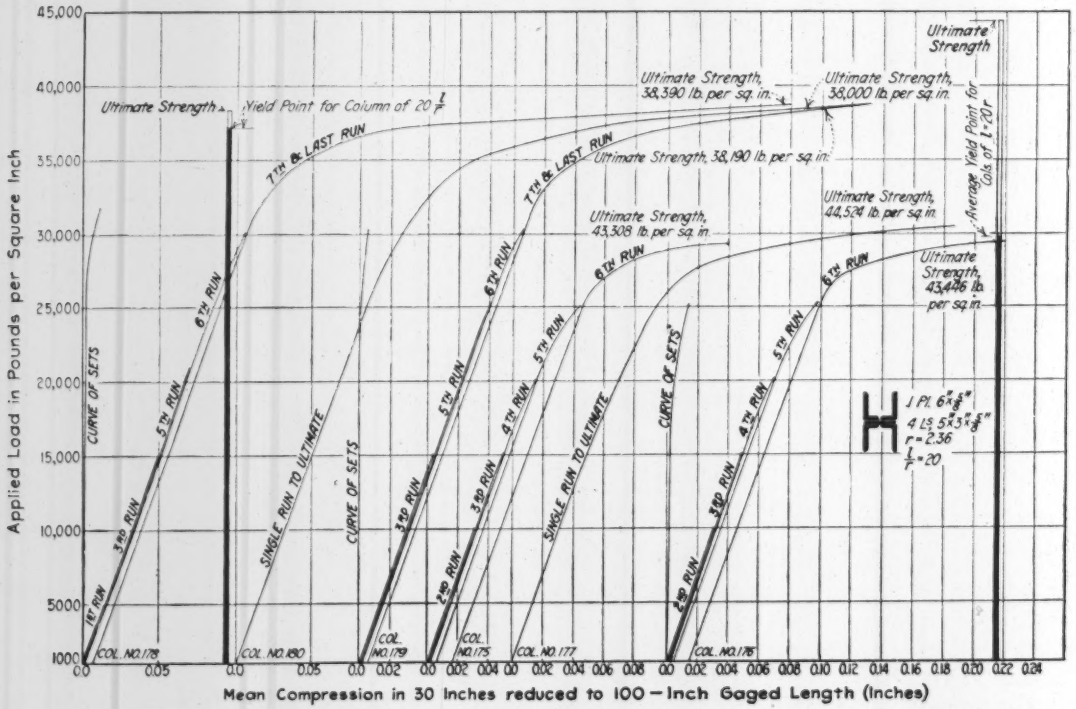


FIG. 5. IN SHORT-BLOCK TESTS, LIGHT AND HEAVY SECTIONS SHOW SIMILAR ELASTIC BEHAVIOR, BUT HEAVY COLUMNS SQUEEZE WITHOUT BUCKLING AFTER YIELD-POINT IS PASSED

of the metal in the columns. Nevertheless, large differences of ultimate strength were found between similar columns. In nearly all cases two columns of similar make-up but of different thicknesses of metal, that is one column of thin and the other of thick metal, showed decidedly lower strength for the columns of thicker material.

No reason for this difference can be discovered in the mill tension tests of small specimens, as all these fall fairly well within the ordered yield-point range, 37,000 to 39,000 lb. per sq.in. Compression tests in progress on entire sections of channels, I-beams and other shapes, some of which have already been completed, show that the compressive strength of the metal in different columns is not at all the same. Some of the metal has an average compressive yield-point well below 30,000 lb. per sq.in., other pieces as high as 42,000. In addition, the short-block tests—i.e. those made on columns of total length equal to 20 r, or pin-end length-ratio 10—exhibit directly the compressive quality of the metal and plainly show the variations in compressive yield-point.

It has long been known that the strength of a column is limited by the compressive yield-point of the material; the present tests, so far as they apply to this point, are wholly confirmatory. Since the tests show that different lots of steel ordered to the same tensile strength and tensile yield-point may have widely different compressive yield-points, they demonstrate that steel columns supposedly alike may differ in strength by 25% or more. How this unsatisfactory condition may be cured and how metal of high compressive quality is to be obtained from steel mills under regular commercial conditions is a matter for early consideration.

Summary of Important Results

The value of the tests is pretty fully embodied in the two extensive tables of ultimate strengths which we have compiled from the Bureau's test sheets. Reading these tables in conjunction with the column drawings, Figs. 2 and 3, various facts become apparent. We give in the following those that appear to have the chief practical importance:

Columns whose component elements are connected by tie-plates are much weaker than those in which proper latticing is used. Tie-plate connection should not be used, therefore.

Well-built latticed columns and columns of solid cross-section can readily be made free of all local weakness, so that they will fail by integral buckling.

When a column fails by integral buckling, the limiting factor of strength is the compressive yield-point of its metal. The higher the compressive yield-point of the metal, the stronger will be the column.

Columns whose length-ratio is 25 or less (pin-end basis) have an ultimate strength equal to or just below the yield-point of the metal. For greater length there is a progressive decrease in strength, fairly well expressed by any of the ordinary column formulas. Even up to length-ratio 72½ the influence of the yield-point of the metal is still distinct, that is, the conditions expressed by the Euler formula are not nearly approached.

A good column shows a straight stress-strain curve (Fig. 6), which bends quite sharply to failure. Thus, practically the entire ultimate strength of the column is to be regarded as "available strength" for purposes of design. For a given working stress, therefore, the factors of safety possessed by two columns will be in the same ratio as their failure-strength in test.

The columns of ¼-in. to ⅜-in. material show considerably lower strength in most cases than those of ⅜-in. material. The reason for the lower strength lies in the lower compressive qualities of the thick rolled material.

Specifying the tensile strength and tensile yield-point will not fix or guarantee the compressive yield-point, even though a rather high tensile yield-point be called for.

Attempts To Eliminate Dangerous Railroad Crossings

California Commission Recommends 1100 Improvements To Lessen Fatalities and Injuries to Users of Highways

IN CALIFORNIA the state railroad commission has exclusive jurisdiction over all grade crossings of highways and railways. Between June 30, 1914, and Dec. 31, 1916, there were 229 persons killed and 896 injured at these crossings, largely through the carelessness of the persons driving on the highways. The commission is now making an examination of every such crossing in the state. If possible, each crossing is examined in the presence of the railroad company's representatives and the local highway authorities who are interested in it. The commission makes a report on each crossing, sometimes giving recommendations for improving the existing conditions. The recommendations are usually confined to improvements that do not involve the separation of the grades of the highway and railway, for such elimination of grade crossings is too expensive where the hazard is slight.

The recommendation made most often is to place, change or remove signs at these crossings; the recommendation coming next in frequency is to cut down brush or trees or to trim trees that interfere with the view of the tracks from the roads. Out of 1100 recommendations for the improvement of grade crossings, 768 were of one or the other of these two classes. In 92 cases the commission advised closing the crossing, because to do so would cause little inconvenience and greatly reduce the dangerous conditions. In 66 cases the installation of automatic flagmen or bells that give warning of the proximity of the train to the crossing was recommended.

No Warning Signal Is Certain

Like all warning signals, however, none of these are a certain check to the careless driver, and for this reason some road builders believe in reviving the "bump" used a number of years ago to stop reckless speeding. This is merely a transverse ridge, which a car moving at a moderate speed will pass over without other results than a slight jar; a car moving at high speed, however, will receive such a jolt that the driver will be cautioned of danger. These "bumps" it is proposed to place near the warning signal, so that every car will be brought under control before the crossing is reached, provided the driver is careful and intelligent.

In 30 cases the commission recommended the removal of billboards, buildings and other obstructions to a view

of the tracks. An unnecessary hardship to the large number of careful drivers results from the presence of such obstacles to the oversight of tracks leading to the crossing.

If the billboards served any public purpose, there might be some excuse for locating them in such places. The buildings often belong to the railway company, which has a tendency to place tool sheds, store sheds and other small structures near the tracks at crossings where they cause the traffic on the highways the maximum inconvenience. It is strange that this is so, in view of the fact that every grade-crossing accident costs the railway on which it occurs a sum that would remove many of these sheds to more suitable positions.

In 27 cases the commission recommended that the highway approaches to the crossing should be graded, in four cases it advised changing the alignment of the highway, in 14 cases it advised grading between rails, and in one case it advised changing the location of the crossing. In only 18 out of the 1100 cases did it recommend the separation of the grades of the highway and railway. This last fact is significant of the change in public sentiment regarding grade crossings in the last 15 years. At one time there was a quite general demand that grade crossings should be removed at the expense of the railroad companies everywhere, without regard to the fact that probably no railroad company could do so without going into bankruptcy. That only 18 out of 1100 grade crossings are now considered to require a separation of grades indicates a more complete understanding of the real causes of danger at such places and of the means of reducing it to a negligible minimum.

Canadian Cantonments All Built by One Contractor

Organization Developed During Three Years of Rush Work Completes Camps in Short Order

ALL OF the military camps built in Canada in the past three years have been the work of one contractor, Bate & McMahon, of Ottawa, and have been put up under the direction of Col. Robert S. Low, manager of the firm, who was early in the war commissioned a colonel to facilitate the military control of the construction. While none of the camps has as many buildings as are designed for the new United States cantonments, two of the Canadian camps, Borden and Valcartier, have housed as many or more men under canvas and have required equally elaborate and extensive sanitary services and auxiliary buildings. Most of the other work in Canada has been the construction of aviation camps to quarter from 1200 to 1500 men and a great amount of aviation equipment. All the camps were rush jobs, and from the beginning Colonel Low has specialized on speed, so that today he has under his charge a unique organization of remarkable experience in hurry-up work.

An important and distinctive feature of the organization is its mobility. From the early days of the war, when Colonel Low caught his workmen early in the morning of Aug. 5, 1914, on their way to another job and dispatched them immediately by train to the site of the Valcartier camp at Quebec, the complete organization, men, equipment, and food, has been on call for dispatch to one after another of the camps which have been ordered by the military direction.

The second important factor in the speed is that the whole organization is self-contained. The full layout of contractor's equipment, comprising motor trucks for delivery, the usual quota of steam shovels, ditchers, backfillers, concrete mixers, derricks, engines, and minor tools have been so selected that they can be loaded onto a train and sent wherever required. Attached to this same train or to others closely following it are the cars carrying the men and provisions sufficient to last three weeks, so that on whatever site they are started, work can be carried on for that length of time before call upon local stores or upon local delivery must be made.

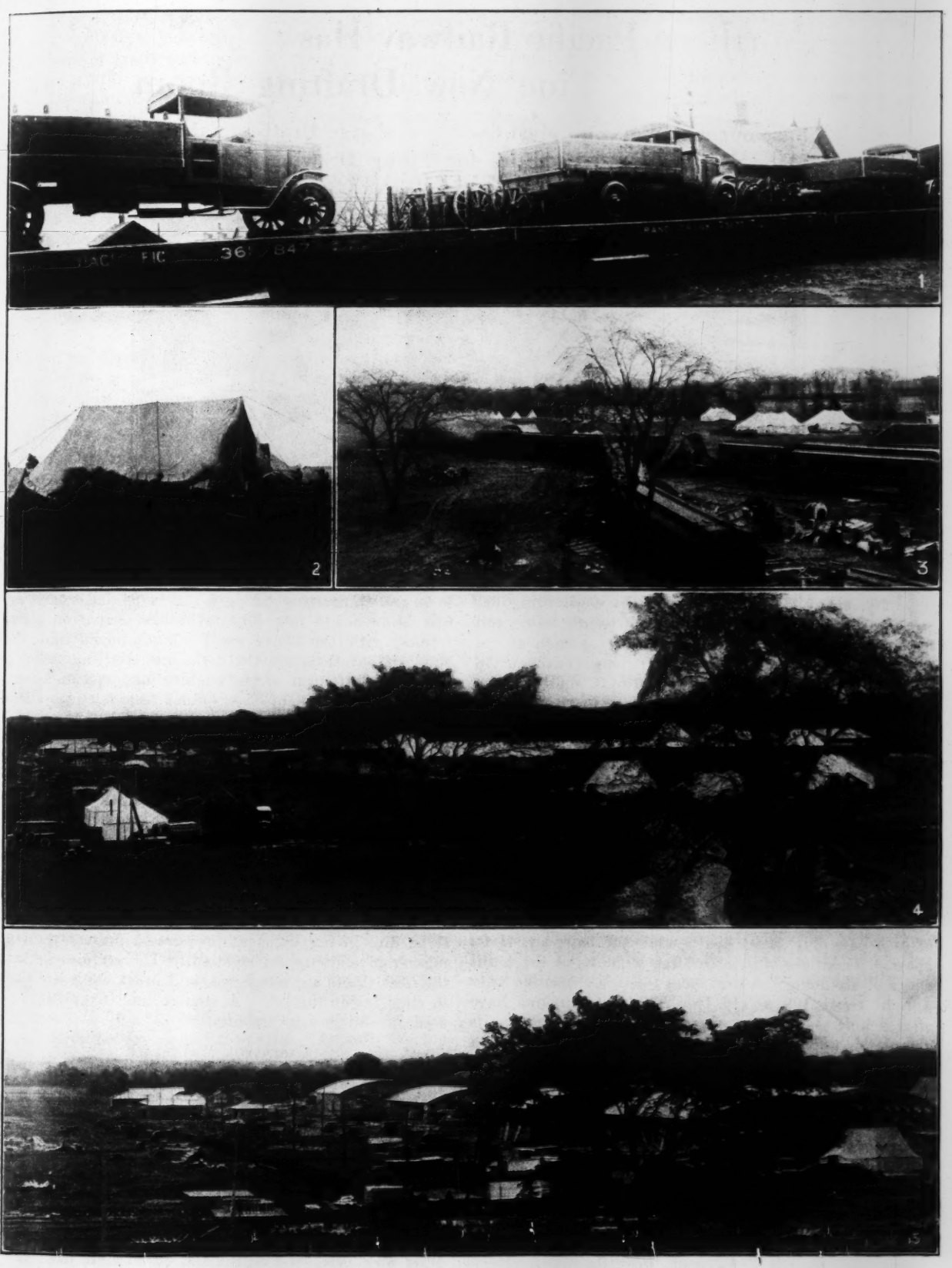
Equipment Loaded on Cars

Some of the accompanying views show typical camp work. The first one shows some of the cars loaded with the contractor's equipment. These cars are brought as near as possible to the camp site and tracks are then immediately laid to the site proper. When the site has been reached, old-fashioned circus methods soon run up a tent camp, a typical one of which is shown in another of the views. In this camp 1000 to 3000 workmen are housed. Immediately wells are sunk, telegraph, telephone, and where possible, power connections established, and the preliminary clearing started. Portable sawmills follow behind the timber operations and soon transform the trees into lumber used in the camp construction. Trench diggers follow the clearing for draining the ground where necessary, and in all cases for making the trenches in which the sewer and water pipes are laid. Material, that is cement and aggregate for concrete floors and cement-gun covered walls where such are used, floor frames, sashes, sanitary fixtures, etc., all follow as soon as possible by train. Then building operations are begun.

Rapid Progress Made at Camp Leaside

Three of the views here show the rapid progress made on the most recent of the aviation camps, that known as Camp Leaside, in Toronto. The contractors did not reach this site until May 23 of this year. The first view shows them late in the afternoon of the first day they entered, and the trains carrying their men and equipment in the foreground and the tents for the construction force already in place. The other two views show the progress at the end of one week and at the end of three weeks. The work here comprised not only considerable clearing of rough timber but the drainage of the aviation field, the erection of houses for quartering the men, and the construction of a number of large-size hangars, together with the necessary roads and wiring connections. Most of the buildings of this type are of wood frame, sheathed on the side with 2-ply roofing, and on the roof with 3-ply.

All of this work is done under the general direction of the military organization of Canada. The design details are, however, left mostly to the contractor. He is told how many men are to be housed in the camp and given specific instructions, of course, as to the number and general design of the many buildings. His own design force then proceeds to the work under the general direction of a military officer. Contracts are let on a cost plus fixed sum basis, the government keeping the only time that is used on the work and the government also checking the contractor on his bill of material.



RUSH WORK IN BUILDING AN AVIATION CAMP, CAMP SEASIDE, ONTARIO

1—Construction equipment loaded on train to ship to camp. 2—Canvasmen putting up the workmen's tents. 3—The camp site at the end of the first day on the job, May 23. 4—Railway sidings in, material dumped and some buildings started one week later, June 1. 5—Hangars well along and quarters nearly complete. Three weeks after reaching camp, June 15

Northern Pacific Railway Has Fine New Drafting Room

Spacious and Well-Equipped Quarters—Large Drafting Tables—Metal Filing Cases—Facilities for Filing Drawings and Books

THE new office building of the Northern Pacific Ry. at St. Paul, Minn., has the engineering department on the twelfth and thirteenth floors, and the main drafting room occupies a large portion of the former. It is approximately 117 ft. long and 35 to 58 ft. wide, with an area of nearly 6200 sq.ft. undivided by partitions or interior walls. The height is 11 ft. This room will accommodate 60 to 75 draftsmen and is used by the forces engaged in maintenance, valuation, bridge, map and general work. Separate quarters are provided for the drafting work of the architectural and signal departments. The general layout of the engineering quarters and drafting rooms on the twelfth floor is shown in the plan on p. 650.

Ample Light

Ample light is provided by seven pairs of windows along the east side. The windows are 62 x 89 in., those of each pair only 14 in. apart, while the pairs are 4½ ft. apart. There are also three large windows at the north end and six along the west side, these last opening onto a light court 109 x 146 ft. The east windows have steel double sashes so connected that as the lower one is raised the upper one is lowered. Each window has a "Perennia" folding cloth shade of light buff color. It slides on vertical wires and may be adjusted to cover any desired width at any height, or it may be folded up at the top or bottom of the window. There are 76 lamps of 100 watts each, suspended from the ceiling and concealed by bottom bowl reflectors in order to give indirect, or diffused, lighting.

The record engineer, with his clerical force, occupies a space about 22 x 42 ft., shut off from the main part of the room by the large steel filing cases required for his voluminous records. An open steel stairway connects this space with the thirteenth floor, which is occupied by the valuation engineer and his force.

Ranged along the outer (east) wall and at right angles to it are 31 drafting tables, all 42 x 84 in., except one that is 58 x 144 in. The tables are boards on trestle frames, with small drawers for instruments and supplies. Near them are the desks and drafting tables of the chief draftsmen of the engineering department and the bridge department. A special feature is an Ulrich shadowless, or transparent, drafting table 3½ x 7½ ft. It has a ground-glass top over a chamber containing electric lights and is used particularly for tracing old and faded drawings and maps. It was built especially by the Wausau Fixture and Furniture Company.

The inner part of the room has several filing cases, mostly of steel. These cases have drawers and shelves, the shelf space being either open or fitted with doors. Bridge plans are filed vertically in two steel cases mounted on wheels and having hinged tops or lids. The tracings are placed between fiber sheets arranged in "accordion" style, thus giving sufficient pressure to prevent the tracings from slipping or buckling. The sections between the fiber sheets are numbered, and index cards are fitted to clips inside the lid. A similar case, 62 x 31 in., is used for filing map tracings.

Cases for Materials

A metal case, 3½ x 7 ft., and 40 in. high, with doors, has compartments for storing opened rolls of tracing cloth, profile and detail paper, cross-section paper (in sheets and rolls) and stationery supplies. Beneath the top is a recess having an iron rod, in brackets, carrying the roll of detail paper that is in use. A wood case, 28 x 30 in., 4 ft. high, with locked doors, is provided for keeping pencils, pens, erasers, brushes, inks, water colors, etc. Upon it is mounted a Boston pencil pointer. Another wood case, 50 x 30 in., and 40 in. high, has shallow drawers for stationery and other supplies. A general-utility table, 4 x 15 ft., has drawers of various sizes for

the storage of such supplies as unopened rolls of paper and tracing cloth, jars of paste, large bottles of ink, safety gasoline cans and waste, for cleaning tracings.

Printing titles on tracings of maps and profiles (mainly for the valuation engineer) is done by a No. 9 "Official" printing press, which, with a type case containing 16 fonts of different sizes of type, is mounted on the general-utility table. The press is also used for printing small blank forms. For the tracings, ordinary printers' ink is used. While this practice necessitates allowing time for the ink to dry, it is found that quick-drying inks do not penetrate and therefore gradually rub off, so that good blueprints cannot be made.

Two Sets of Railway Curves

Two sets of Stowell Bros. metallic railway curves are kept in the top drawer of one of the cases, being ranged in order by degree or curve, with labels pasted on the bottom of the drawer. Holes in the curves allow placing them over upright brads that are driven into the bottom of the drawer and thus hold the sets of curves in place. This method of keeping the curves was adopted for the reason that driving nails in the walls is prohibited throughout the building. Where pictures, maps, clocks, time cards, etc., are required, they must be suspended from hooks on the picture molding. The draftsmen have their own instruments, which with T-squares, triangles, etc., are kept on the tables or in small drawers beneath them.

Several white porcelain washbowls are provided, each having hot- and cold-water taps and a third tap for cooled drinking water. There is also a large inclosed sink that can be used by the draftsmen for washing glasses, bottles and other articles. All waste-baskets are of noninflammable fiber. For coats and hats there is a portable rack at one side of the room. The railway company provides individual drinking glasses and supplies each man with two towels per week.

Blueprinting Equipment

The blueprinting room, 24 x 37½ ft., is on the thirteenth floor (top). It is equipped with a Pease automatic electric machine, with its washing and drying apparatus. The finished prints are automatically wound up in a loose roll. This machine takes paper 54 in. wide. For trimming prints there is a 45-in. shear, having a graduated platform 3 x 4 ft. There are also four tables, two of which are large trimming tables, 5 x 12 ft. and 3½ x 10 ft., with 2½-in. wood tops and iron-pipe legs.

A case 3 x 16½ ft., behind the machine, serves as a general table for laying out the work. Beneath the top are open and closed compartments for storing blueprint paper and the tracings that are in use. With this equipment, an operator and two assistants do all the work for the engineering, mechanical and right-of-way departments. During the year 1916 about 854,000 sq.ft. of blueprint paper was used, besides large quantities of white and negative papers. Comparatively little use is made of white prints, owing to the extra time and cost of making the negatives.

Vault and Filing Equipment

For the storage of drawings and records, there is a fireproof vault 24 x 37½ ft., 11 ft. high, on the drafting-room floor. It has the unusual feature of being lighted by a large window. This is on the court side (the only exterior wall) and has metal sash frames with wire-glass panels. There are also 12 ceiling lamps of 60 watts. For drawings, there are four filing cases with pigeonholes above and drawers below. Five cases with shelves only are provided for fieldbooks and similar records. All these cases, with a table, are of steel, the only wood equipment being a wheeled step-ladder. The steel filing equipment in the vault and drafting room is of the Art Metal Co.'s manufacture.

One of the filing cases for drawings occupies an entire wall of the vault, being 37½ ft. long and 11 ft. high with a depth of 31 in. The upper part has 374 pigeonholes or compartments, 7¼ in. high and 12¾ in. wide, while the lower part has several tiers of drawers. A double-faced case, 15 ft. wide, 11 ft. high, and 11½ in. deep on each side, has 460 pigeonholes 4⅜ x 12¼ in., used mainly for rolls of profiles. Beneath are 16 drawers 9 in. deep, 14 x 22½in. They are for various groups of sketch plans and track-mileage records. This case also has metal boxes in which are filed track profiles (1 in. = 400 ft.), condensed profiles and rail charts. The fourth case is 8 ft. 9 in. wide, 10 ft. high and 35 in. deep, used mainly for station plans and maps.

For the fieldbooks, there are four double-faced cases 10 ft. long, 11 ft. high and 12 in. deep, and one case only 6 in. deep. These cases already contain over 15,000 fieldbooks, dating from 1864, and have room for many thousands more. The books have numbered labels pasted on the back.

Diagram of Filing Layout

A diagram of the layout is placed in the vault to facilitate the location of required compartments or drawers, but the taking out and replacing of files are supposed to be done generally by the filing clerk or his assistant. On the inside of the vault door, and therefore conspicuous when the door is open, is a clip board with a renewable white-print sheet for recording files taken from the vault. This sheet is ruled in columns for files of seven different classes—plans, maps, fieldbooks, etc.

When a file is taken out, its number is marked in the proper column; and in another column is entered the name of the person who takes the file or to whom it is given. The entries are canceled when the files are returned. This method places responsibility and often saves time and trouble in searching for missing files.

Filing and Indexing System

The filing clerk and one assistant care for all the drawings, fieldbooks, etc., filed in the vault. These clerks have a space about 22 x 15 ft. in the drafting room, equipped with tables. The main file is a "Globe" card-index cabinet with cards 5 x 8 in. The cards are of five colors: White for maps, pink for profiles, buff for structures, blue for bridges, and green for statements and statistical tables. They are filled out on a typewriter. There are also individual index books for special classes of records, such as stations, etc.

Bridge, building and other structural plans are filed flat in shallow drawers of suitable size. Each drawer has a fixed cover at the rear to keep plans from slipping out, and a hinged flap at the front to rest on the

plans and hold them in place, so that they will not be damaged in pulling the drawers in and out.

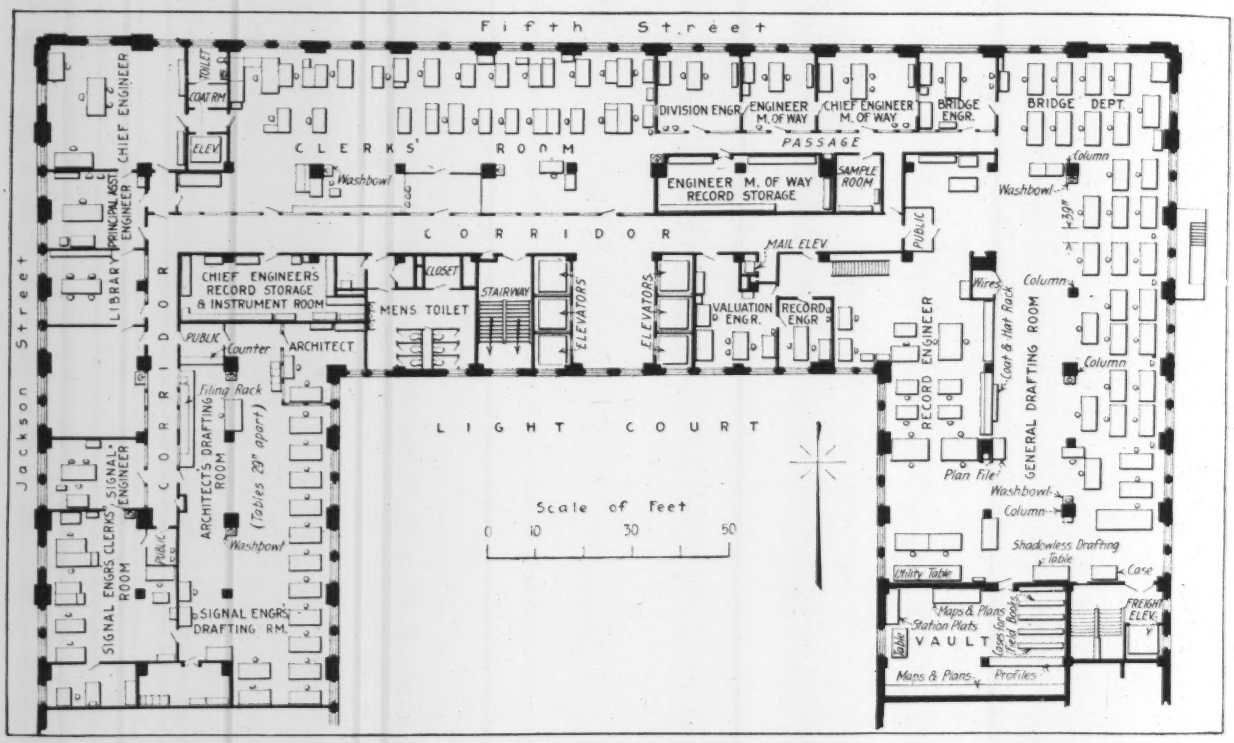
Station and other plans, and maps of all kinds, are rolled on strong cardboard tubes and kept in large pigeonholes or compartments. The tubes are 1¼ in. in diameter, with closed ends, and each has attached to it a paper flap that rolls up with the tracing or drawing. A rubber band is placed over each roll. The tubes are of three lengths: 30 in., 34 in. and 42 in. Those in any one file case are the same length, which is a little less than the depth of the case.

On the fixed cap at each end of the tube is a white disk with red border and horizontal red line. In the upper part is printed (by hand) the number of the compartment. In the lower part is the individual file number, each compartment having its own series of numbers up to its cubical capacity. Thus, after looking up the card index, it is a matter of a few moments to locate the compartment and then to find the roll of the desired number in that compartment.

With this arrangement it is not necessary to label the compartments. The drawers, however, have labels of white cardboard in bronze frame plates. Drawers containing files not referred to in the card index have brief inscriptions to indicate the contents. All files have printed across the end the number of the drawer or compartment and the individual number.

An exception to the above arrangement is made in the filing of station plans, in order to retain a system adopted several years ago and to avoid the trouble of converting all these old file numbers. In this case each vertical row of compartments has a letter and each compartment of that row has a number: A-1 (at the top), A-2, B-1, etc. Each tube is marked with the letter and number of its compartment and also with the name of the station or spur represented on the plan. These plans, on a scale of 100 ft. to the inch, are filed by sections of the main line and by branches, without alphabetical arrangement.

The plans of a large station layout may be in two to four parts, rolled on one tube. For the large terminal stations, such as St. Paul, Seattle, etc., with six to thirty sections, there is a separate tube for each section. To locate the sections, there is a blueprint index map for each of these terminals, rolled on a tube having a pink label marked Index and filed in the same compartment. Rail charts are being made for each station, showing the location and length of rails of various weights. These



PLAN OF ENGINEERING DEPARTMENT AND DRAFTING ROOMS IN THE OFFICE BUILDING OF THE NORTHERN PACIFIC RY., AT ST. PAUL, MINN.

charts are rolled on the same tubes as the station plans, a blue line being marked across the label, at right angles to the red line, to indicate stations having the rail charts.

The filing case for station plans is 8 ft. 9 in. wide, 10 ft. high and 35 in. deep. It has 99 pigeonholes 6 in. high and 10 in. wide, also large and small drawers 3½ in. deep. In one of the large drawers are kept, on labeled tubes, maps 22 x 36 in., on a scale of 1 in. = 4 miles, covering the entire Northern Pacific Ry. and its connections. There are also separate sheets (on a larger scale) of plans of the more important towns. As there are 50 of these sheets, each tube carries two sheets, the cap labels showing the number of the sheet for the general plan, or the name of the town for the detail plan. Other drawers contain state, county and city atlases.

In drawers 14 x 22½ in., and 9 in. deep, are filed vertically the "A.F.E." (authority for expenditure) sketches. They are tracings 8 in. wide and of necessary length, showing proposed changes or improvements. Blue-

prints of these sketches are used in various ways. Letter-filing cases in one of the compartments contain sheets, 8½ x 12⅜ in., of sketches and plans of grade crossings, etc.

All work passes through the hands of the chief draftsman of the engineering department, except that matters relating to bridges and culverts are attended to by the chief draftsman of the bridge department. The work under the former includes not only the preparation of plans, maps and drawings for new work and improvements, but also the keeping up of road charts (for rails, ballast, etc.), progress profiles and records received from the record engineer, who has his quarters and files in the drafting room. It covers also the map and work for the valuation now being done for the Interstate Commerce Commission, eight of the draftsmen being at present assigned to this work. It may be noted that the conventional signs recommended by the American Railway Engineering Association in its *Manual* are used on all new plans.

The heads of the drafting office and record work are J. N. Pariseau, chief draftsman of the engineering department; R. R. Brockway, chief draftsman of the bridge department; and H. M. Stout, record engineer. All —work is under the direction of H. E. Stevens, chief engineer of the Northern Pacific Railway.

Labor Conditions and How Contractors See Them

Shortage of Supply and Shifting of Men from Place to Place Constitute Difficult Problem and Chief Cause of Decreasing Efficiency

THE contractor or the construction engineer with work to be done and a time limit or penalty looming in the distance is sure to find increasing trouble in regard to the supply of men, judging from opinions expressed to this journal by leaders in the railway and construction fields. The labor problem was discussed briefly in *Engineering News-Record* of Apr. 26, and information was given in detail as to the experience on one large railway job. A rather wide inquiry made since that date, as to opinions and experience, indicates that the condition is recognized as increasingly serious. This is due not only to the actual shortage of supply, but to the great loss of time, money and energy consequent upon the unreliable character of a large proportion of the common-labor element.

Foreign Labor Travels in Gangs

Foreigners are still fairly plentiful. They are handled usually in gangs headed by interpreters, especially in the case of men from the countries of southern Europe. While the men usually stick together in their gangs, it is uncertain how long a gang will stay on the job, even after it has started to work, since for any grievance or any advantage elsewhere the interpreter is apt to take the gang away at short notice. Some railways, however, have found that foreign laborers in general are not inclined to shift; and if treated well one season, they are likely to return.

One method of checking the tendency of these gangs to float from job to job on railway work is for the railway to decline to employ men coming from other roads in the same vicinity. Otherwise, the leaders of the gangs are inclined to play one road against another. They will tell the officials on the road for which they are working that they have been offered higher pay by another road and will tell the officials of the latter that they will come to work for a certain rate of pay. It is usually desirable, or even necessary, to keep the various nationalities and the various grades of labor separate, both in camp and on the work. This is particularly the case at the present time, with war and racial feelings aroused.

With laborers, native and foreign, who work singly and not in gangs, one great trouble is their uncontrollable restlessness. This results not only in making the problem of labor supply continuous, but in making it difficult to organize gangs for work or to keep men who understand the work. On some Chicago track-elevation work done by a railway company, almost 2870 men were employed during a period of six months to maintain a working force of about 400. The average time spent on the work was less than five days for each man. On a 10-mile highway contract, over 5000 men are said to have been employed during the working season of 1916. Drink is of course one of the main causes of restlessness and trouble, but sheer restlessness in itself is a strong factor in the problem.

Many Men Never Even Reach the Job

Another source of trouble is that a considerable percentage of men shipped by employment agencies do not even reach the job, and of those who do reach it only a certain proportion actually go to work. As a means of checking the wandering tendencies of the men it has been suggested that local communities and their officials should coöperate with the railways to prevent men from beating their way on freight trains. This is a large subject that has been discussed for years, but it seems almost impossible to secure the coöperation of local bodies for this purpose.

The Southern railways have had an ample supply of negro labor along their lines, but are now facing a marked change in this condition, due to the extensive movement of negroes to northern sections, as a result of the great inducements offered for work in industrial plants. The railways are trying to meet this situation by increasing the wages, paying the men more frequently and furnishing boarding-camp and boarding-car outfits. In the Southwest, where Mexican labor has been largely employed, the troubles on the border have led to a decrease in the quantity and reliability of this class of labor. In the Northwest, the Japanese labor is fairly plentiful on the railways.

With the common laborers employed singly, as distinguished from those employed in gangs, some distinction should be made between the "hobo" and the "tramp," though the dividing line is not sharp. The hobo is a good worker, but peculiar in his ways. He does not seem to care for regular employment, but after working long

enough to earn some money he wants to have an opportunity to spend it and then moves on to another job. He is likely to have intelligence, but is not endowed with staying capacity. The majority of hobos are Americans, or men from northern Europe who have been in this country long enough to know its ways. They get their jobs largely through labor agencies.

The Tramp Does Not Want Work

The tramp proper does not want to work, even to earn something to spend. He prefers to get his money in some easier way and takes a job only in emergency and with no intention of sticking to it. He is less cleanly and less reliable than the hobo and usually drifts into the work casually instead of being sent by a labor agent. One contracting firm states that on a job in Ohio its common laborers were mainly "American bums, who were either drunkards or petty criminals."

One peculiarity of the situation is the difference in living accommodations required by men of different nationalities. As an instance, B. M. Cheney, general inspector of permanent way and structures on the Chicago, Burlington & Quincy R.R., states that most foreign labor prefers wooden bunks, while the hobo, negro and Mexican prefer steel bunks. But this is not all; different nationalities have their own preferences in bunks, and the Greek is not satisfied with the kind of bunk built by the Italian. For this reason, in furnishing cars for foreign laborers this road supplies the lumber and lets the men build the bunks in accordance with their own ideas.

What Contractors Say

Inquiry as to individual experience and practice brings out interesting information, some of which is condensed below:

Morris, Shepard & Dougherty, of St. Paul, emphasize the fact that the time of service given by common labor for the last couple of years has been very unsteady. Outside of the employees who have been working more or less steadily among subcontractors, laborers do not remain much over a month before they move on to some other job. There is no special reason why they should quit, except their restless condition.

The nationalities employed in this section are largely Swedes and Norwegians. Previous to the opening of the war, there were some Austrians and Italians, but very few of these are to be had at the present time. The contractors in this section have been endeavoring to improve the housing and feeding of the men and have increased the wages as an inducement for them to remain on the various jobs, but it seems to have little or no effect.

Laborers Average Less Than a Month on the Job

Winston Brothers Co., of Minneapolis, finds that common laborers average less than a month on the job. They enjoy change and therefore move on, being sure of a job whenever they want one. Hobos of all nationalities are employed. Gangs of Austrians, Hungarians and Slavs stay the longest. Men may be encouraged to stay by a bonus system, with extra pay for a definite period of 60 or 90 days, or to the end of the job.

P. T. Clifford & Son, of Valparaiso, Ind., also find it hard to keep common or transient labor. Good board and sleeping quarters, with prompt and frequent payment, are thought to furnish the best general solution of the problem. This applies also to foreign labor. Italians and Rumanians are being employed, and there is no great difficulty in securing all the men required.

The Dravo Contracting Co., of Pittsburgh, finds that the majority of common laborers in that section render efficient service for four or five days, when they become dominated with the craving for intoxicants. The resulting loss of interest in the work necessitates prompt discharge. The men get drunk, perhaps have a term in jail and then go to work for a few days with some other outfit. The company has sanitary camps and messhouses, with good food and beds, heat, light, running water, modern toilets and shower baths. Every possible means is taken to prevent the use of intoxicants.

With Higher Wages, It Takes Less Time To Get a "Stake"

The Bates & Rogers Construction Co., of Chicago, reports that, in general, the length of service is merely long enough to get a "stake" of $10 or $12. As wages are increased, the length of stay is shorter. The main reason for leaving the jobs is that the men have made money enough to go and "blow it in." The men are largely Italians, Greeks, Rumanians and Austrians.

This firm has tried the bonus system for holding men on jobs. The man is hired with a definite understanding that if he stays a certain period of time, say 60 or 90 days, or until the job is finished, he will be given an increased rate or bonus. This has not given much satisfaction, however. Some good resulted from making the camps as attractive as possible, including good food and good sleeping accommodations. At one of the larger jobs it is proposed to have a Y. M. C. A. outfit, similar to that established with the troops, including a phonograph, moving-picture machine, writing facilities, games, etc.

One Contractor Discusses the Question in Detail

Charles Ffolliott, president of A. Guthrie & Co., contractors and engineers of St. Paul, discusses the situation at length. His opinion follows in his own words:

"The matter of the transient character of common labor is a very interesting one to contractors, and one which has puzzled them for a considerable length of time. It is hard to understand why a man will make a most uncomfortable journey on a railway for two days moving to a job, when he has arrived at his destination stay only for a few hours or a few days and then walk off. It may be said that the men do this just to get transportation to some point to which they want to travel. No doubt this is done in many instances; these men, like many others, have no compunction in beating the railways. Most of the men, however, have no particular place in mind. They just go because they want to move and can move without cost. If they arrive in the evening, they get supper, bed and breakfast, so they figure they are that much ahead and are beating somebody—which seems to them a very proper thing to do.

"The time of service given by the common laborers on any job varies a great deal according to the individual. Among our outfits there are always a few men who stay the entire time of the job. These are men who have worked for us a number of years and can generally be relied on as steady men. But the great proportion of common laborers, especially in harvest time, do not stay longer on an average than four or five days. This refers

mostly to the 'white' men. Where 'foreign' gangs are employed, the term of service is very much longer. In fact, a good 'foreign' gang can be relied on to stay as long as their interpreter does not find a better job for his gang.

"These foreign gangs almost always insist on having their own quarters, boarding cars or camps and buy their own provisions and board themselves, the contractor in most cases paying for the cook. This boarding of the men by themselves tends to unsanitary conditions and to poorer food being used than if the men boarded in a good contractor's camp."

Temptation to Nomadic Habits

In Mr. Ffolliott's opinion the great body of "white" nomadic labor that wanders about the country from place to place, remaining a day or two on any job or long enough to get a little money to go to town with, constitutes the chief problem. The facility with which these men can move from place to place is mostly responsible for their wanderings. When work is plentiful, they can go to any labor center, hire out at an employment agency and secure free transportation to the different jobs. If they cannot get shipped by an employment agent, they can go down to the railway yards and board freight trains to almost anywhere they wish, if they have any money to pass to the trainmen for their transportation. The trainmen will accept almost anything that they can "shake down" from these laborers.

"As long as this state of affairs exists on the railways," continues Mr. Ffolliott, "we will have this vast horde of nomads traveling over the country from place to place and doing very little work. If the authorities in the different states would prevent this illegal traveling, the supply of labor would be increased and the tramp element, which is a great menace to the country, would be largely eliminated.

Why the Men Leave Work

"The reasons for a man quitting a job and going to another place are numerous. The camps may be uncomfortable. The board may not be good. The different camps are discussed among the laborers, and they know where the better camps are, where the contractors are who have the reputation of keeping good camps. A great deal has been done by contractors lately in improving the condition of laborers in the camps, providing better sleeping quarters, better dining rooms and better-cooked food.

"The climate also has its influence on the wanderer. The laborer will leave the Northwest as soon as the cold weather commences and travel south. It saves clothes. Again, as soon as the warm weather commences, he will leave the South and travel north. The ease with which he can get transportation, as explained above, facilitates this movement. Most of these laborers have no family ties and no stated home and get into the habit of traveling—a habit which is very hard to break.

"The men employed are of many nationalities. There is a great army of common laborers of various nationalities known as 'white' which seems to have no family or other ties and travels all over the country. Then there are the laborers from central Europe, who generally travel in gangs and keep together fairly well. Of late years there has been a tendency for individuals from the central European gangs to travel about with the native white men or by themselves. The nationalities mostly represented by these foreign gangs are Austrians, Greeks, Bulgarians, Montenegrins and Italians. These gangs are not nearly as numerous as they were before the war, and the war is largely responsible for the great scarcity of labor at the present time.

"As to the steps that are being taken by contractors to increase the efficiency and economy of labor and to encourage men to remain on the job, there has been no concerted movement. Individual contractors have done a great deal to improve the condition of their camps, providing proper water closets, baths and heated apartments for housing their men. Of course, these facilities can only be provided on jobs that last for a considerable length of time. In the ordinary railway camp in the country away from towns, it is impossible to have the facilities mentioned. Still, a great deal can be done and is being done by contractors who realize the great importance of having their men comfortable and having them remain with them during the work. But notwithstanding all the improvements, no way has yet been found to prevent the men from traveling from place to place in the manner described, and it is fair to attribute this almost entirely to the ease with which the men can travel on the railways."

Typhoid by States in 1916

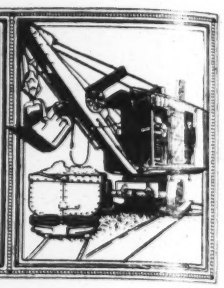
Mississippi had the highest and Massachusetts the lowest death rate from typhoid fever of 33 states (including Hawaii and the District of Columbia) in a list for the year 1916 published by the United States Public Health Service. The table, reprinted here, gives evidence of "relatively complete" records for the states of Kansas, Maryland, Massachusetts, Minnesota, Mississippi, Montana, New Jersey, New York, and Washington, and for the District of Columbia, the Public Health Service says, since for these states 7 to 10 cases were reported for each death registered. The next to the last column of the table shows, by the same token, incomplete records for some other states, notably for Alabama, Louisiana, Oregon, Rhode Island and Wisconsin.

TYPHOID FEVER REPORTED DURING THE CALENDAR YEAR 1916

State	Cases Reported	Deaths Registered	Indicated Case Rate per 1,000 Inhabitants	Indicated Death Rate per 1,000 Inhabitants	Indicated Fatality Rate per 100 Cases	Estimated Population July 1, 1916
Alabama	3,591	694	1.540	0.298	19.33	2,332,608
Arizona	51		0.200			255,544
California	1,205	209	0.410	0.071	17.34	2,938,654
Colorado	542		0.563			962,060
Connecticut	538	93	0.432	0.075	17.29	1,244,479
District of Columbia	308	46	0.846	0.126	12.50	363,980
Hawaii	212	44	0.983	0.204	20.75	215,741
Indiana	3,296	600	1.170	0.213	18.20	2,816,817
Iowa		155		0.070		2,220,321
Kansas	2,104	263	1.150	0.144	12.50	1,829,545
Kentucky		695		0.292		2,379,639
Louisiana	1,413	347	0.772	0.190	24.56	1,829,130
Maine	426		0.551			772,489
Maryland	2,668	267	1.958	0.196	10.01	1,362,807
Massachusetts	1,515	161	0.407	0.043	10.63	3,719,156
Michigan	2,225	405	0.728	0.133	18.20	3,054,854
Minnesota	916	127	0.402	0.056	13.86	2,279,603
Mississippi	6,035	668	3.092	0.342	11.07	1,951,674
Montana	407	47	0.886	0.102	11.55	459,494
New Jersey	1,390	194	0.472	0.066	13.96	2,948,017
New York	4,417	593	0.430	0.058	13.43	10,273,375
Ohio	4,273		0.830			5,150,356
Oregon	210	52	0.251	0.062	24.76	835,471
Pennsylvania	8,697		1.021			8,522,017
Rhode Island	170	37	0.277	0.060	21.77	614,315
South Carolina	.....	475	.....	0.292	.....	1,625,475
Texas	.....	523	.....	0.118	.....	4,429,566
Vermont	165	24	0.454	0.066	14.55	363,699
Virginia	.....	546	.....	0.249	.....	2,192,019
Washington	615	78	0.401	0.051	12.68	1,534,221
West Virginia	1,469		1.060			1,386,038
Wisconsin	999	173	0.400	0.069	17.32	2,500,350
Wyoming	.....	20	.....	0.111	.....	179,559

HINTS FOR THE CONTRACTOR

DETAILS WHICH SAVE TIME AND LABOR ON CONSTRUCTION WORK



Contracting Firm Invites Visitors To See That They Get Attention

THE PICTURE and legend shown in the photograph make it plain to visitors at one general contractor's office in New York City that the firm will appreciate action on the part of these same visitors calling attention to the remissness of men who are asked for and who do not

THIS SIGN IS NO BLUFF—THERE IS A BELL BENEATH IT THAT MAKES A NOISE

respond within a reasonable time, or to possible laxity on the part of its office-boy brigade. The significance of this sign is not lost on callers who have been in the offices of some other general contractors in large cities. The chest of the would-be interviewer who is looking for a subcontract or a job swells with satisfaction as he thinks, "At last, I'm going to get a little attention!"

It is only fair to the Raymond Concrete Pile Co. to add that the hopes raised by the sign are seldom disappointed. The members of the firm have made many friends by living up to it.

The wording of the sign was first used by the Gisholt Co., but the photograph and the arrangement originated with P. D. Case, assistant secretary of the Raymond organization.

Men Die of CO Poisoning, at Camp Built on Cinder Dump

DEATH and serious illness in a construction camp in Ohio have been traced, according to Dr. R. P. Albaugh, director of industrial hygiene in that state, to poisoning from carbon monoxide gas generated in a fire beneath the frozen surface of a cinder dump at a steel plant, where the camp was constructed. The seriousness of the occurrence arose from the fact that the camp was well built and ventilated, and the doctors called to the scene could think of no cause for the illness except ptomaine poisoning. It later developed that such poisoning did not occur, and the food and kitchen conditions at the camp were found to be of the best.

First Evidence of Trouble

The construction gang housed at this camp consisted of about 30 white and 30 colored laborers, with different bunkhouses. About 8:30 on the evening of Dec. 18 last, one of the men discovered a colored waiter lying unconscious on the floor of the bunkhouse, having apparently fallen from the second-tier bunk that he had occupied. The superintendent was notified, and with several others attempted to revive the negro. Before a doctor arrived, a second negro waiter was unconscious, and the superintendent and several others were suffering such distress that they had been obliged to go to bed. The physician treated all of them for ptomaine poisoning and, after remaining for an hour or two, left, thinking that everything possible had been done.

While the superintendent and the others who had not lost consciousness improved, the two unconscious negroes rapidly became worse; and at one o'clock in the morning the physician was called again. Being unable to respond, he sent a second doctor, who found the first waiter dead, five other men unconscious and five more suffering seriously. This doctor, knowing the treatment that had been given by the other physician, called ambulances and taxicabs and sent the 10 men affected to the hospital. All of the men, except one of those unconscious, who died four days later, without coming to, improved on the trip to the hospital, and all of them were fully recovered within a few days. The hospital staff also attributed the illness to poisoned food. It is noteworthy also that the physician who sent these men to the hospital himself suffered from a severe headache and drowsiness on his return from the camp.

On Dec. 22 following, the superintendent and three other men returned to the camp, which had been deserted since the night of the eighteenth. All retired feeling well; but when the cook arose to get breakfast in the morning, he collapsed. The superintendent lost consciousness on the way to the telephone to call a physician; and before a doctor reached the scene, only one man of the four was able to move. All were sent to the hospital, where one died within three days of what appeared to be pneumonia, while the other three recovered. An examination of the bodies of the three men who died did not reveal any trace of their having eaten poison. It was then decided to conduct an examination to determine the poison that had caused the three deaths.

Camp Buildings in Good Condition

It was found that the camp buildings were in good condition and well kept, that the food on hand in the storeroom was of good quality and in good condition, and that, while the camp was equipped with stoves for heating, each had a pipe without a damper leading straight up through the roof. The inquiry indicated that the fires were not kept over night and that the windows in all the sleeping quarters had been kept open at night. The kitchen was equipped with a sink from which a waste pipe led through the floor, wastes being allowed to be absorbed by the earth. There was no gas in the camp, and no gas mains or pipes were situated near the camp. The old fill on which the camp was located consisted of dirt, slag, scrap, mill wastes, ashes and cinders and had been in place for five years for the most part. No material at all had been deposited there for six months. It covered an area of nearly two acres from 10 to 15 ft. deep.

About 10 days before the occurrence of the first illness an employee of the steel mill at which the camp was located noticed a little vapor coming from the dump about 50 ft. distant from the camp, and an attempt was made to dig a trench around the location of the fire thus indicated, in order to put it out. The dump was found to be frozen to a depth of 2 ft., but at a depth of 5 ft. red-hot cinders were encountered and a second trench was started 10 ft. back of the first. Hot cinders were found in this one also, and successive trenches were dug up to the site of the camp buildings, where hot cinders were found at a depth of about 5 ft. Six of the men engaged in digging these trenches became ill, and two had to be taken to the hospital of the rolling mill.

Trouble Laid to Carbon Monoxide

It was concluded from these conditions that the entire trouble was caused by a carbon monoxide poisoning, the gas being formed from the smoldering incomplete combustion of cinders and other material and being unable to escape owing to the frozen surface, except beneath the camp buildings where the ground had been thawed. The hot water from the kitchen sink probably established a flue for the escape of these gases from the fire beneath. The symptoms of the men affected correspond exactly with those of carbon monoxide poisoning, with no resemblance to ptomaine poisoning. The fact that the camp had been occupied for about three months without any serious consequences indicates that the gas had never previously found its way to the surface in quantities sufficient to produce poisoning.

Carbon monoxide is especially dangerous because it is odorless, colorless and tasteless, two or three parts per thousand in air being dangerous to life. The poison acts by combining with the hemoglobin, thus destroying the blood. Pneumonia is a frequent complication.

The camp in question was of course moved immediately to some distance from the dump, and canaries in cages were placed in all the sleeping quarters to guard against the chance of the wind carrying gas in dangerous quantities from the dump, which was torn up to extinguish the fire.

The investigation of these cases is described by Dr. Albaugh in the *Journal of American Health* for Apr. 7 last.

Dragline Eliminates Haulage Equipment on Railroad Work

By W. A. PILLANS

Assistant Engineer, Lorain, Ashland & Southern Railroad Company, Lorain, Ohio

ON THE Lorain, Ashland & Southern R.R. recently completed and now being operated by the Pennsylvania Lines, a dragline excavator was used in making heavy cuts and embankment with very satisfactory results. The conditions under which the machine worked and its performance will interest the contractor who has not considered the possibility of utilizing his dragline on this type of heavy grading.

The Essex Construction Co., of Buffalo, N. Y., with a Bucyrus machine, took a contract to grade the first four miles south of Wellington, Ohio. Nothing heavier than an 8-ft. cut was met on the first three miles, the machine borrowing for the fills and washing the cuts, swinging about 60 ft. of each end of each cut into the adjacent fill. On the fourth mile, however, a cut 3000 ft. long, 1100 ft. of which averaged 19 ft. in depth, threat-

DRAGLINE MAKES CUT WHICH NEEDS NO TRIMMING

ened to displace the dragline for a machine better suited for such heavy work.

Making a Cut by Dragline

The profile indicated a large amount of waste on the mile, and the fill at the south end of the cut could be practically made from the cut next south. The material from the big cut could not therefore be placed in embankment within the limits of such an overhaul distance as would not make the price paid for overhaul exceed the unit price paid for excavation. As on nearly all new lines, first cost was a necessary consideration, and it was decided to waste the cut with the exception of a small amount on the south end. The dragline in making the cut rode the center line, swinging the material into spoil banks on either side. But one move through the cut was required.

The dragline machine worked to a 0.57% grade and on a 40-ft. curve the entire distance and handled approximately 40,000 yd. of heavy, yellow clay and blue gumbo during the six weeks required to complete the work. The slopes were cut from a 20-ft. base one to one and required no hand dressing. Some sliding due to frost action has occurred, but the work compares favorably with similar work done by steam shovel.

Highway Made from Spoil

A feature favorable to the contractor was that a highway which crossed the cut at a very acute angle, thus making an overhead bridge on the original line impracticable, had to be reconstructed. The waste along one side of the cut came in handy for building a new road from one end to near the middle of the cut, where it crosses at right angles and swings again into the old highway. After completing the cut, the machine returned on the line of the new highway, riding the spoil bank and grading the new road.

The fact that practically all of so heavy a cut was wasted may lead to a criticism of the practice or even the location. The location was an imperative one chosen from several made under the direction of the late Joseph Ramsey, Jr., which fact would seem to preclude any criticism as to its correctness. The practice was governed by the necessity of taking first cost into consideration and actual waste on the mile. The additional right-of-way necessary for the spoil banks was purchased for $250, which does not offset to any appreciable extent the dragline's economy. The illustration shows plainly the results accomplished.

Embankment South of Wellington

Equally as profitable to the contractor and as good an example of dragline economy, although not so unusual a performance for this type of machine, is the work shown in one of the photographs, an embankment 11 miles south of Wellington, built by the same machine.

HEAVY FILL MADE WITH LITTLE REHANDLING AND WITHOUT ANY FORCE OR EQUIPMENT FOR TRANSPORTING MATERIAL

At this point, the line crosses the Baltimore & Ohio R.R. with an overhead crossing, the approaches to which are partly trestled and partly filled. The south approach is a fill 2300 ft. long, with a maximum height of 28 ft. built on a temporary grade of 0.7%. About 48,000 yd. of material was borrowed from pits on either side, having widths of from 30 to 80 ft. and a maximum depth of 14 ft. Two moves through each pit were made, except for a short distance at the small end of the fill. On the first move, near the outside of the pit, the machine took out the material and placed it about halfway to the center line. On the second move this material was recast into the fill and the remainder of the pit made. At the high end of the fill during the second trip the machine climbed the side of the fill in order to cast to the top.

From 10 to 20% was allowed for settlement, as a great part of the material handled was from low-lying ground saturated from spring rains. An early and thorough settlement of the fill occurred, and only ordinary maintenance attention has been required since. The land purchased for the borrow pits cost $250. The expense of temporary trestles was saved; and although some of the dirt was handled twice, the dragline did away with the usual transportation equipment and force.

EDITORIALS

Topographers Can Aid Airplane Program

IT TAKES a trained eye to "see ground," to visualize a map, in other words. To the layman and to many engineers, even, the topographic map is a record to be interpreted by tedious study; but to the expert topographer it is a living representation of the country it reproduces. To him, a glance serves to accent the relief and to bring out the nature of the country; in short, he sees the ground as though he were in an airplane, sailing slowly over it. The time has now come when this skill may be capitalized for the benefit of the country. The nation's program calls for a magnification of the war in the air, for the construction of 50,000 airplanes. This service will demand many types of men, but no one is more important than those who will make up the eyes of the air fleet; and, in the minds of the experts in Washington, no class of men is better suited for this service than the expert topographer fitted to convert the living map of the earth spread before him under an airplane into the miniature reproduction from which the artillery directs its fire and the infantry plans its raids.

The Centenary of the Erie Canal

ON JUNE 27, 1817, was signed the first contract for the construction of the Erie Canal across New York State, and pursuant to that contract on the following July 4 the work of building that famous waterway was begun by formal excavation just west of Rome. The present year, then, marks the centennial of the beginning of the most historically potent piece of engineering in the United States. Strangely enough, the year gives promise of a revival of the state canal as a factor in the life of the country. The hundred years since its start have seen marked changes in transportation. The Erie Canal served in its first few years to establish New York City as the premier American port so firmly that the railroads, when they developed a score of years later, were forced into New York City, although it was surpassed as a railroad terminal by several other of the Atlantic ports. Soon the growth of the railroad became so great as to make the value of the canal negligible. It had outlived its purpose long before the last part of the century in which it was built, though there were several heroic efforts to revive it. In fact, the latest revival, the $150,000,000 New York State Barge Canal, seemed to be a waste of public funds to many, until strangely enough, the war with its necessity for transport of goods to the coast at a time when railroads are congested beyond all hope of ready relief and when terminals are congested even more than the main lines of the railroads has brought to the front once more the possibility of water transport from the Lakes to the ocean piers at New York. It is too early yet to predict how much of this expected use of the New York State Barge Canal will materialize, but it can be said that in this year, 100 years after the first pick was driven into the soil to make the original canal, there is better prospect of its successor becoming a useful link in the nation's transportation system than at any time since it was initiated.

Strong Letters from Water-Works Men

THE twenty-odd strong letters from members of the American Water-Works Association printed in our last and present issues contain many constructive suggestions. They show faith in the future of the Association but belief in the need for new life and reform. They indorse the editorial position taken in our issue of May 17. The very few letters of protest received have been not against our criticisms but against our letter inviting the membership of the Association to voice their criticisms through our columns. Among the suggestions received are: Elimination of objectionable association politics; reforms in nomination methods; more democracy; less exploitation of the Association by self-seeking members; employment of a strong, full-time, well-paid executive officer; consolidation of American and New England Water-Works Associations. A belief that the Association is essentially technical but should make itself useful to superintendents and other water-works executives who have not had technical education and experience is shown. The letters are strong, representative, stimulating. They will help the American Water-Works Association find itself and fulfill its destiny of ever-increasing usefulness.

The Freight-Car Shortage Is Serious

ONE industry after another makes complaint relative to the freight-car shortage. It is asserted, for example, that roadbuilding in the Middle West has been brought almost to a standstill by the inability to get materials to the work. It is said, again, that cars are not to be had for the moving of Southern lumber, although Western lumber is moving with comparative freedom. There is no need to feign surprise at the situation, or to suppose that there is an absolute remedy whereby everybody can have an abundance of cars. During several years of depression the railroad managers, lacking the money to build cars, were predicting difficulty with the return of business. They did not foresee the unprecedented traffic brought on by the war, for which they would hardly have been fully prepared in any event. The immediate point is that the serious situation is here, and everybody must put his shoulder to the wheel. Partial relief can be obtained.

Better Loading and Faster Moving

FOUR LINES of improvement are open in the car situation—building more cars, distributing them better, loading them fuller, and moving them faster. The building of more cars is essential as a provision for the future, but it cannot bring immediate relief. Car distribution is in the hands of the special board of the

American Railway Association, and it can be assumed that the board is using its best efforts to put the cars where they are most needed. The public can help little here. The public's opportunity is in better loading and faster moving. Better loading is a matter of education, in which all shippers can take part. Nearly two months ago the special railway board pointed out that while the average capacity of all cars is 39.7 tons, the average load of revenue freight is only 15.5 tons, or considerably less than half the car capacity. Here is an easy way to increase the number of available cars, by making each car carry more nearly the load for which it was built. In the moving as well as in the loading of cars, the shipping public has ample opportunity to help matters. Consider the absurdly low average run of 25 miles per freight car per day. Increasing this mileage to 30 would add the capacity of 515,000 cars to the present supply. The railroads can and must use their best efforts to speed the cars up in transit and in the repair shops. But the public also has the cars in its hands a considerable part of the time, and it must load and unload them promptly. And it goes without saying that more should be done of what has already been started—the discontinuing of some passenger trains and the luxurious features of others—to the end that main tracks, yards, repair facilities and locomotives may be more fully released for the moving of freight cars and freight. The public should not oppose these reductions in nonessential passenger service.

Price-Fixing Must Meet Two Basic Demands

THE matter of the arbitrary fixing of prices for materials bought by the Federal Government has reached the point where it demands the earnest attention of economists and of able persons more familiar with industry, and especially with the steel industry, than any of the officials who have so far engaged in combating excessive profits. In view of some unscientific and dangerous attempts at price regulation that have been made of late, it is gratifying to note that a movement is under way to regulate prices not only of finished products bought by the government, but of all materials entering into those products, and, more important yet, of the price at which the same materials are to be sold to the general consumer.

The two basic requirements of the present situation are expressed in this movement. Prices must be fixed wisely, on the basis of expert study; and they must be fixed for the private consumer as well as for the government.

The seriousness of the situation is emphasized by facts with which everyone who reads the newspapers is familiar. In the face of a report by the American Iron and Steel Institute that steel products for ship construction cannot now be sold for less than $95 a ton at any profit to the producer; in the face of the fact that pig iron is selling at and above $50 per ton, and that enough coke to make a ton of pig iron now costs more than $20, more than the market price of pig iron a year ago, the Secretary of the Navy maintains that ship steel is worth only $65 a ton. This opinion, given after an investigation, the methods of which are not known, by a man who prior to taking office had no connection with or knowledge of the steel industry, is about to be imposed upon the steel industry by means which are not advertised, and in a manner bordering on the confiscatory. Not only a former newspaper publisher, but also a man whose experience has been confined to the lumber business has taken a hand in this sort of price fixing; the chairman of our shipping board has declared, after an even more cursory and private investigation, that ship steel sold at $56 a ton will yield a handsome profit to the makers.

The tendency thus evidenced to disregard the knowledge of men connected with the industry and the findings with regard to fair prices of bodies in a position to know whereof they speak is dangerous. It is to be hoped that, should the Federal Trade Commission or the Council of National Defense be intrusted with this work, the findings of such a body with reference to maximum prices will be made binding on the executive officers of the government. Should any agencies bring about the fixing of a price to the government on steel products below production costs plus a fair operating profit, the private consumer obviously could not be allowed to enjoy the same price. On the contrary he would have to pay a greatly increased price; the country in general and construction work in particular would suffer from it in a serious and needless manner.

The first result, should the government insist on being furnished at too low a price with, say, 10% of the country's steel output, reducing by that amount the supply for all other purposes, would be to increase the price of steel to all other consumers up to and probably beyond the point at which the steel companies would recoup the loss on all material furnished the government. The heavy current demand, which has already responded without a waver to the most astounding advances, puts this matter beyond dispute. Thus, while well-meaning officers were saving a direct taxation burden to the country in securing a slightly lower price on direct government purchases, they would be levying an indirect, special, unbalanced tax on all users of steel products, probably in excess of the direct taxation which they might save. As the government came to take more and more of the steel output, the effect would become increasingly serious. The power of taxation, it must be remembered, is conferred on the legislative branch of the government, and cannot be assumed by an executive officer without something akin to usurpation of authority.

In addition to the illegal taxation that would thus be imposed, however, there lies in unwise price-fixing a grave threat of derangement to the many and exceedingly important steel-consuming industries of the country. This threat is especially serious to all construction work into which steel enters. There are no definite figures kept, but it is safe to say that high prices have already cut the annual use of steel in new construction of all sorts to less than 5% of the total output. The inevitable result of unscientific price-fixing—such for example as advocated by the heads of the navy and the shipping board—would be to cut it still further, to reduce the volume of work and to postpone much work that is needed, war or no war. Such action would put a harmful curb on all steel construction that should and might be carried on in spite of high prices.

The country can afford to take no chances with the fixing of maximum prices by persons unfamiliar with the industry concerned. This is no time to take account of personal prejudices or preconceived notions as to how much it ought to cost to make something. Therefore it is encouraging to note that the present proposals contemplate getting at the root of the matter by a real investigation, fixing all the prices involved in the production of steel clear back to raw materials and the cost of food and clothes for the labor engaged in the industry.

From all consideration on the subject it will be clear that the price fixed for government purchases must be a *fair* price. Anything else will result in serious injury to the country. It is equally clear that, once a fair price is fixed, it must be the same to government and to private consumer. Finally, price fixing can not deal with finished material alone, but must extend down to the ultimate sources, the raw materials.

Even this, though done in the wisest and most far-sighted manner, may not succeed unless the price-fixers take into account the fact that some plants and some sections can always produce for less cost than others, and the fact that large stocks of various materials of manufacture, bought at high prices, are already on hand at many plants, and must be worked off gradually. No amount of price fixing can take the money paid for these materials out of the pockets of those who sold them and return it to the manufacturers.

In view of the serious consequences which mishandling of this matter would have for construction work and for the general public, and in view of an evident tendency on the part of some to mishandle it if given too free rein, the readers of *Engineering News-Record* should keep a close watch on the doings of whatever body is selected to look into the matter, and should unite in helping it to get at the truth and avoid fatal blunders.

Knowledge of Column Strength

A TESTING campaign planned on a large scale and carried out with brilliant precision has been completed by the United States Bureau of Standards, to the great benefit of the engineering profession and those who use the engineer's services. Its outcome is to provide definite and new information on the strength of steel columns. Results were obtained that form the basis for far-reaching conclusions.

Strange as it may seem, we have had hitherto no really comprehensive test knowledge concerning the strength of steel columns. In the quarter-century since steel came into use, only a few small, scattering sets of column tests have been made, and even these more often gave negative results than positive. This is not the place for a review of prior tests, but the plain fact may be stated that the two hundred or so tests of large-size columns in the present series provide the first satisfactory steel-column data that we possess.

Among the big results of the series are these: Solid-section columns and well-built columns of open section are not subject to local failure, but remain in service undamaged up to the point where bodily bending or buckling of the column occurs; this buckling action utilizes the full compressive strength of the metal, the quantity known ordinarily as the compressive yield-point. The shape of column cross-section is immaterial. The effect of column length justifies the accepted column formulas, with a strength-reduction of about 25% between slenderness-ratios 25 and 75. For ratios below 25, no increased strength can be counted on, which again corroborates prior beliefs.

All appearances are that the bending stress arising from small initial eccentricity of load, of metal or of resistance, increased by that due to the resultant buckling, adds to the direct compression until the metal on the concave side of the column reaches its compressive yield-point. In all (or nearly all) cases the failure is quick after the yield-point is passed: Elastic failure of the metal spells structural failure for the column. But in the very short columns, of length-ratio about 10, buckling is so minor a factor that direct axial squeezing remains dominant even after elastic failure, and a largely increased load can be carried beyond this point, the column slowly crushing down. An exception to most of the above statements is found in the case of tie-plated columns, whose strength is low; this fact has been accepted by many engineers in the past, on theoretical grounds, but there was no proof by test to refute the favorable opinion which some other engineers held of this type of column.

But the biggest fact of the whole investigation is that some lots of steel (we speak now only of standard commercial bridge steel) make much poorer columns—that is, weaker columns—than other lots of steel—and that *we do not know how to recognize the weak steel*. In other words, the standard tension test, which is the only criterion by which steel is bought and graded, fails to distinguish between good and bad column steel. Most of our bridge steel produces columns having a strength of 34,000 to 37,000 lb. per sq.in. (at length-ratio 25), but other columns are weaker by one-sixth to one-third.

So long as the weak columns are not sorted out from the strong columns, we must, for safety, assume that all columns are weak. We must proportion all columns as though their ultimate basal strength were only 27,000 lb. per sq.in., instead of 35,000. This represents 30% increase section of metal.

The view may be taken that this is satisfactory. At least one engineer closely concerned with the column question has stated to *Engineering News-Record* that 27,000 lb. is strong enough for a column, that it gives a sufficient safety margin over customary working stresses. This is true and good, so far as it speaks for the safety of existing structures; but it has no meaning for future design. If proper means of selection should make it possible to get columns possessing 25% greater strength—in other words if all columns could be as good as our best columns, by eliminating those made of weak steel, there would be corresponding economy to be obtained in all future construction.

So far as the present test facts indicate, nothing stands in the way of getting this increased column strength except a reluctance to devise and apply methods of test by which the higher-strength column steel can be selected. Under the present year's urgent need for economy, with steel commanding tremendous prices and a real shortage of structural steel already existing, mere inertia of custom must not stand in the way of an obvious step toward saving steel.

LETTERS TO THE EDITOR

Comment on Matters of Interest to Engineers and Contractors will be Welcomed

Heap Test Only One Indication of Excellence of Concrete

Sir—I have read with interest Mr. Harrison's letter in *Engineering News-Record* of June 7, commenting on my recent article in this paper entitled "Concrete Consistency Measured by a Simple Field Test." In defense of this test, I should like to note that Mr. Harrison's very convincing criticism is directed not against the test itself, but against a peculiar misinterpretation of its scope and purpose very different from anything I stated or intended to imply in its description.

One cannot deny Mr. Harrison's point, "The simple truth is that any good foreman could meet the proposed specification with undermixed and overwatered concrete." It is plain that the specification could be readily met by concrete abused in this or many other ways—for example, with all the cement left out. The heap test certainly cannot be expected to dispense in any way with the necessity for complete control over the ingredients of concrete and the time and manner of mixing. It is not intended to furnish a general guarantee of excellence, but is simply a field test for consistency and implies nothing as to the quality of the concrete on which it is used, except that in one more of the many operations in its manufacture systematic control has replaced guesswork.

HAROLD A. THOMAS,
Associate Professor of Civil Engineering,
Rose Polytechnic Institute.
Terre Haute, Ind.

Design of Imhoff Tank at Fort Benjamin Harrison

Sir—In the June 7 issue of *Engineering News-Record*, a brief description, with illustrations, is given of the sewage-disposal plant now under construction at the officers' training camp at Fort Benjamin Harrison, Ind. Included in the disposal plant is an Imhoff tank, and in the description of the plant the statement is made: "The plans for the tank are reproduced here in somewhat more detail than ordinarily the simplicity of the plant would warrant, as other camps may be confronted with a similar problem."

The statement seems to imply that this tank might perhaps serve as a model on which to base the design of Imhoff tanks at other training camps, should tanks there be needed. It is for fear that this is just what may happen that the writer feels called on to point out that some features of the design are not in accord with good practice. It is appreciated that but little time was available for working up the design and that the two features which the writer will call attention to may therefore have slipped through without sufficient consideration. The writer refers (1) to the arrangement for admitting the solids from the settling chamber to the sludge chamber, and (2) to the possibility of having a current of raw sewage flow through the sludge chamber. Reference should be made to the diagrams on page 507.

In designing the slot between the settling chamber and the sludge chamber it is better to so arrange the construction that the sliding through of the solids into the sludge chamber will be facilitated rather than retarded. If the design will be examined, it will be seen that the solids sliding down the sloping bottom of the settling chamber tend to bring up against the shoulder provided to prevent the escape of gases up through the slot into the settling chamber. Similar constructions elsewhere have given trouble, clogging up the slot, due to the accumulation of solids on the shoulder. Again, it will be seen that the cleaning of the slots will be more difficult than with other arrangements that readily suggest themselves.

With reference to the second feature, the possibility of having a current of raw sewage flow through the sludge chamber, it will be seen that two settling chambers are provided and that they are connected, one with the other, by means of the sludge chamber. If, in operation, the hydraulics are such that the same volume of raw sewage that is admitted at the inlet end of each settling chamber passes out at the outlet end of the chamber, then no flow of raw sewage should occur through the sludge chamber from one settling chamber to the other. But with the design shown, only a glance is needed to see that it may be found extremely difficult to secure this result, due to irregularities in construction and differences in head on the inlet and outlet gates. Not only is it possible, but extremely probable, that even with all eight inlet and outlet gates wide open a current of raw sewage will flow through the sludge chamber; and if some of the inlet or outlet gates, or both, are left closed or partly closed, a current of raw sewage is almost sure to flow through the sludge chamber. Such possible conditions should be avoided, and with a different design they can be avoided.

The writer does not mean to go as far as to say that the tank in question may not be made to operate satisfactorily, but he has seen similar conditions elsewhere where tanks having similar features of design did not operate satisfactorily. And it is to sound a word of warning to him who, through lack of experience, with the best of intentions, copies or follows closely the design shown, that the above has been written. OPERATOR.

When Ship Freight by Motor Truck and When by Rail?

Sir—The writer has read with great interest the article under the above title by Prof. C. C. Williams in *Engineering News-Record* of May 10, p. 315.

Professor Williams complains, "Competition of motor-truck haulage is becoming more and more a matter of serious concern on the part of the railways. Just as they have had to accept the competition of electric interurban railways for certain classes of traffic, they are now facing a similar competition from motor trucks on improved highways." Later he says, "From the foregoing analysis, the desirability of reducing terminal costs becomes manifest, if the railroads are to hold the com-

petition from motor trucks to a minimum"; and again, "The case is a repetition of the struggle between the inland waterways of an early day and the railroads."

The writer cannot but feel that the exigencies of the present transportation situation are lost to Professor Williams and that his fears for the well-being of the railroads are premature. It is needless to enter an extended discussion of what has been conclusively demonstrated during the past year—namely, that the railroads are incapable of transporting the greatly augmented tonnage of commodities which has been presented for shipment. They have not been able to supply cars or motive power for this purpose.

On already deficient railroad service are now placed the further demands created by our entrance into the war. The entire situation is not one in which the railroads need protection from competing means of transportation. Rather, the case is stated by saying that the country urgently requires every supplemental means of transportation which can be made of service, if industries are not to be further sapped of their vitality. Without the relief motor trucks can supply, shipping conditions are going to become worse rather than better.

The Cleveland-Akron Highway in Ohio affords a striking illustration of the point in question. This road is improved for a distance of 40 miles to Cleveland, so as to make feasible the relief sought; and it is still to be noted that Akron railroads are taxed beyond the limit of their capacity. The statement was recently made that, if this road were to be shut off to motor-truck transportation, 20,000 men would be thrown out of work in the City of Akron. A recent traffic count over this highway showed a total tonnage of 890 in 72 hours, composed of all varieties of commodities. Were our public highways all developed to the extent to which this highway has been developed, the transportation problem that exists today could not have arisen.

Any theory which holds that the railroads are going to suffer from motor-truck competition fails to take into account two well-demonstrated facts—first, that the railroads make but an indifferent profit from short-haul less-than-carload-lot freight shipments; and second, that they are unable to care for the freight presented to them for long-haul carload shipments.

Professor Williams's concluding statement, "There is ample room for both the railway and the motor truck, and it is hardly necessary that either enroach on the field of the other," well expresses the present situation; but Professor Williams has arrived at this conclusion from an entirely different line of reasoning than present circumstances make tenable.

Instead of decrying and seeking ways to limit motor-truck transportation, every means should be extended to bring our trunk highways to a condition that will permit motor trucking with certainty and dispatch. It is urgently needed now; it will be more urgently needed later, particularly when we know of manufacturers who are forced to ship such commodities as copper, aluminum and farm machinery in carload lots by express, instead of by freight.

MAURICE B. GREENOUGH,
Chief Engineer.
National Paving Brick Manufacturers Association.
Cleveland.

American Water-Works Association —As Its Members See It

"Radical Reform Needed"—Horton

Sir—It has seemed to me for some time that radical reform was needed in the organization of the American Water-Works Association. I believe there are several men who have been working strenuously and conscientiously to bring about this reform. I think, however, there has been a certain element in the association which was greatly misguided as to the functions of such an organization. I believe that an organization of this kind should live up to its agreements in a businesslike way with outsiders, and it should live up to its agreements with its own membership in matters of publication of papers, etc.

It has seemed to me that there was a certain clique in the society which for some reason or other furnished numerous papers which were published in the "Proceedings"; and if there were expensive reprints to be made, apparently they got these reprints where others, as I know personally, have been unable to get reprints even when they offered to pay for them themselves. I know of men who have been members of the society for many years, who have never been asked to present a paper or give experience. I think that the society should at least be representative of its own membership, and I do not think it has been representative of its own membership in the past. The organization should be conducted on the square, without favoritism, without efforts to secure undue advertising for particular persons.

ROBERT E. HORTON,
Consulting Engineer.

"A National Technical Society"—Hopkins

Sir—Referring to your editorial in *Engineering News-Record* of May 17, on "Revolution or Reform in American Water-Works Association?" the writer indorses your statement that the association is a national technical society with a real reason for existence, rather than a united brotherhood of water-works superintendents. Although the early constitution of the association plainly had for its prime object fraternal intercourse between those engaged in water-works management, the admission to membership at that time of those engaged in the design and construction of water-works made it inevitable that the association would more and more take on the character of a technical society, without which it is questionable if it could have survived. The object of the association, as stated in Article II of the constitution, is at the present time far more broad than it was 30 years ago when the nontechnical idea was apparent, when there was about 30% of the active membership professional engineers as against about 42% at the present time, including chemists and bacteriologists.

The last active-membership list of the association shows that about 32% are superintendents and managers of water-works and about 26% unclassified or in miscellaneous occupations. Of the superintendents and managers, many are educated and highly trained men, and as to technical ability rank with the professional engineers. This is also true of many of those classed among the 25% of miscellaneous. It, therefore, seems clear that there are now probably few members who do not appreci-

ate and desire technical papers. However, technical papers should continue to be written, as they have been up to the present time, as free as possible from matter unintelligible to the average of water-works superintendents and managers, or we may expect them, in these days of many societies, to swarm the hive which they have considered theirs. Papers of a highly technical character might be presented more properly to some other technical society.

The constitution, as it now stands, appears to me to be comprehensive, excellent and to meet quite well the requirements of the association. Frequent and unimportant amendments to it are to be deprecated. To prevent a recurrence of the unfortunate result of the recent balloting for officers, the constitution might properly provide for the written consent of a member before he be placed in nomination for any office.

The constitution should also provide for the notification to the members of any proposed amendment, a fixed time in advance of the meeting at which voting on such amendment is to take place.

Although papers presented at the meetings of the local sections have been edited and printed in the "Journal," there appears no section of the constitution specifically authorizing it.

CHARLES C. HOPKINS,
Rochester, N. Y. Consulting Engineer.

"This Is the Time for Active Coöperation"—Conard

Sir—It seems to me there is room for all of us in the American Water-Works Association, and even more than the present number, both of the so-called technical men, the practical men, and those who produce the commodities that are used by the two classes mentioned. I also think that this is the time for active coöperation and team work on the part of everybody. If in the judgment of those who by a majority vote have been placed in charge of the affairs of the association there is certain work to be done, let us any and all stand ready to cast aside personal feelings of whatever nature, and make common cause to place the American Water-Works Association where it ought to be in the field of the great national associations of the American Continent—in the front ranks.

W. R. CONARD,
Burlington, N. J. Inspecting Engineer.

Fall Conventions and Single Association

Sir—My first suggestion relates to the time of holding our conventions. Each superintendent has his hands full at the convention time. A week's vacation by the merchant at Christmas would be suicide or else show that the merchant should get into some other business, as his own would run without him. A second advantage in the fall would be to get the full benefit of the manufacturers' exhibit. This is often of more importance than the papers, as the best engineers are spending all their time to solve our problems. In the fall we would have the chance to order for the spring rush.

I believe in one association divided into sections. I know the New England Association has better ideals and closer association of its members, but does it not tend to take away from our main association? Would not all be better off if it were merely a section?

SUPERINTENDENT.

Society Service

A Section Dealing with the Results of Teamwork by Technical Men

RESULTS have been secured in Rhode Island, where practically all the resident members of the national engineering societies, together with twice as many more not so affiliated, are associated in the Providence Engineering Society, a membership of over 500. The general meetings of the past year have had an average attendance of 275 and the section meetings, of which there were 37, an attendance of 45. Local topics discussed at these meetings have aroused a great deal of public interest.

The society has been instrumental in securing important state legislation, has taken an active part in public safety work, has made an engineering census of Rhode Island, and is helping the advancement of technical education in the public schools. This means that the engineers of Rhode Island are getting acquainted with each other and have the inspiration of working in a common cause. It means that they have an opportunity for original work of a public nature and the development of personal initiative. It means that the society has at its disposal facilities for obtaining the opinion of every engineer in the state upon any matter of public interest. In other words, the society is thoroughly representative of this state as a unit of the nation.

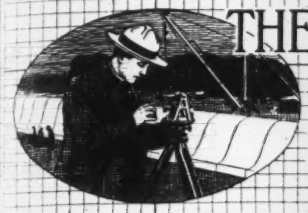
ENGINEERING ASSOCIATION OF NASHVILLE

One of the first things this organization did of a civic nature after it ceased to be a chapter of the defunct Engineering Association of the South was to kill a $2,000,000 bond issue hungry politicians decided to load onto the city for additional water-works and a light plant. The task of presenting to the Government the case of the proposed Mussel Shoals hydro-electric plant for the manufacture of nitrate was turned over to the society. A bankrupt railroad runs out of Nashville. A recent agitation for the bankrupt city to buy the bankrupt road has resulted in the society's taking up this $4,000,000 problem and presenting it before the public in the proper light.

CLEVELAND MATTERS

The parent society has turned over to the Cleveland Association of members of the American Society of Civil Engineers, 22,000 books, duplicated by the library of the Engineering Societies Building, for deposit in the library of the Cleveland Engineering Society. A plan is under way to have the society library made a branch of the Public Library, probably retaining the present librarian, G. H. Tinker, who was chiefly responsible for obtaining the gift.

Each delegate to the last Conference on Coöperation has been furnished with a mimeograph copy of the stenographer's report by C. H. Crawford, assistant engineer, Nashville, Chattanooga & St. Louis R.R., and representation of the Engineering Association of Nashville. A few copies are available for general distribution upon application to Mr. Crawford or to C. E. Drayer, secretary, Cleveland Engineering Society.



THE ENGINEER IN FIELD AND OFFICE

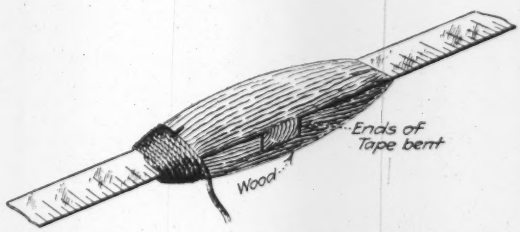
A DEPARTMENT
DEVOTED TO DETAILS OF THE DAY'S WORK

Simple and Certain Field Repair for Broken Steel Tape

By SAMUEL WARREN
New York City

FROM time to time there appear in the engineering magazines, methods of repairing a steel tape in the field. Most of them will slip without entirely pulling apart and are a constant source of worry. The method outlined below is guaranteed not to slip.

Heat each of the broken ends with a match, drawing the temper for about a quarter of an inch, so that it will bend without breaking. Slip the end between the



THIS REPAIR MAKES SLIPPING IMPOSSIBLE

blades of your knife and bend to a right angle. Then proceed to mend it by splitting a small stick and making notches in one half to take the bent ends. Wrap with a piece of twine after tapering the ends of the stick so that it will not catch in the brush. Then proceed to chain—and don't worry as to whether your tape has stretched half an inch at the splice.

Piles Are Driven by Four-Foot Drop

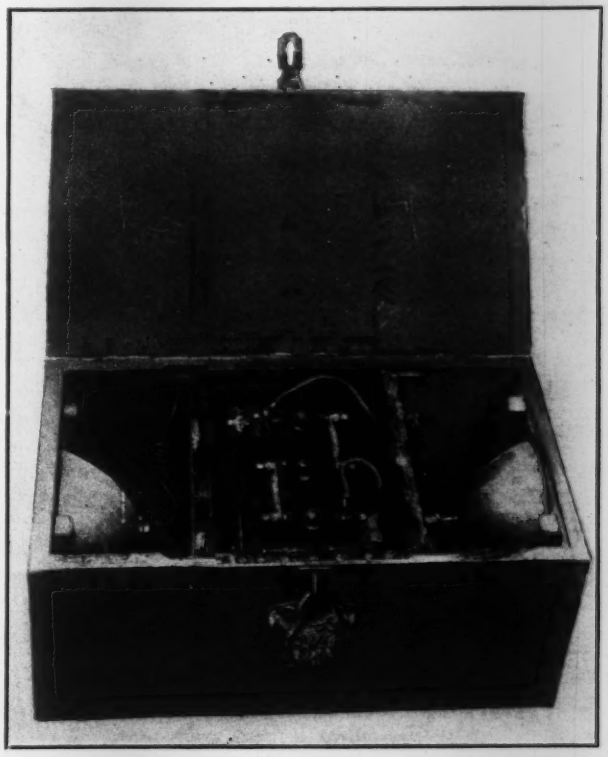
LIGHT blows with a drop-hammer piledriver were required in driving piles for the fenders of a new ferry transfer slip for the Baltimore & Ohio R.R. at Baltimore, Md. The piles are of oak, about 50 ft. long, specified to be 8 in. in diameter at the small end and at least 12 in. at 4 ft. from the butt. The water is about 19 ft. deep, with 3 ft. of soft-mud bottom and then material hard enough to require the use of rings on the pile heads and light blows from the 2250-lb. piledriver hammer. The average drop is only 4 ft. The drop hammer was used because it was a part of the contractor's equipment, but owing to the hard bottom it became necessary to coax the piles down rather than to drive them with heavy blows.

The specifications required that for the last 10 blows the drop should be 20 ft. and the penetration not over 5 in. It was found that such a drop in combination with the hard bottom caused breakage of the piles. The last blows, therefore, were made with a 10-ft. drop, which gave an average penetration of about 1 in. per blow. The railway company's engineer keeps a record of each pile, showing at first the number of blows for each 12 in. of penetration and later the number for each 6 in. For the last blows the penetration per blow is noted.

The piles are driven 9 to 10 ft. into the hard material, some requiring 147 to 153 blows. From 20 to 24 piles per day are driven, more time being consumed in moving the piledriver, selecting the pile and getting it into the leads than in driving it into the ground. The work is being done by the Phœnix Construction Co., of New York. It is under the direction of W. S. Bouton, bridge engineer, Baltimore & Ohio R.R., and G. E. Schaeffer is inspecting engineer in charge for the railway company.

Electric Tunnel Lights in Closed Box for Safety

IN THE construction of the recently completed Cleveland west-side water-works tunnel, W. J. German, engineer, Federal Bureau of Mines, ordered that all lights should be of such a character that they could not ignite the explosive mixture of gas found in the tunnel. The



AUTOMOBILE BULLET LIGHT, SET IN THE END OF A BOX AND DRAWING CURRENT FROM A STORAGE BATTERY, MAKES SAFE TUNNEL ILLUMINATION

cap lamps worn by the men are of the Edison storage-battery type, locked and unlocked above ground, but the lights used in construction work itself, which are nec-

essarily larger, are built into a very carefully constructed box.

The reflectors are "bullet" automobile headlights, each containing a 24-watt lamp that is protected by wire-glass and connected to a 90 ampere-hour Willard storage battery set midway of the length of the box. The latter is 13 in. wide, 10 in. high and 23 in. long, outside dimensions, and is lighted and locked above ground—the key being kept there. The carpentry work on the boxes is of a very high grade, all joints being tight, serving to keep the explosive gas out of the box as much as possible, in the event of a spark being caused by a loose connection at the battery.

This arrangement of tunnel lights was developed in the Cleveland Water Department, though its prototype was probably that of John W. Dolman.

Save Trouble by Using Well-Built Forms

AS THE engineer watches the ordinary contractor set his side forms for concrete roadwork, he easily realizes that not enough consideration is given to their construction and grade layout—facts which later on are sure to cause much extra trouble and loss of time. The forms should not of course be built to a degree of over-nicety, but should be so constructed as to prevent their becoming easily bent, warped or worn out of shape. Another feature oftentimes overlooked is the desirability of staggering the joints, thus preventing an undulation forming across the road in case the joints are out of grade. To

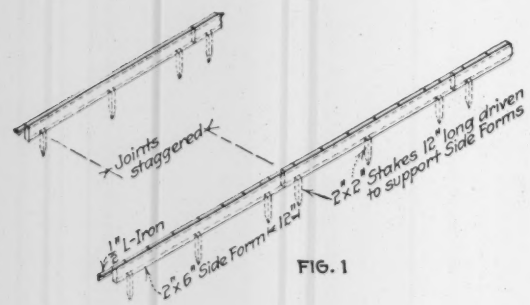


FIG. 1

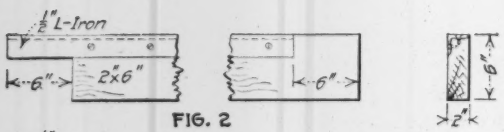


FIG. 2

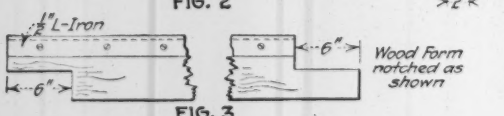


FIG. 3

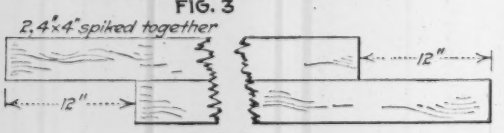


FIG. 4

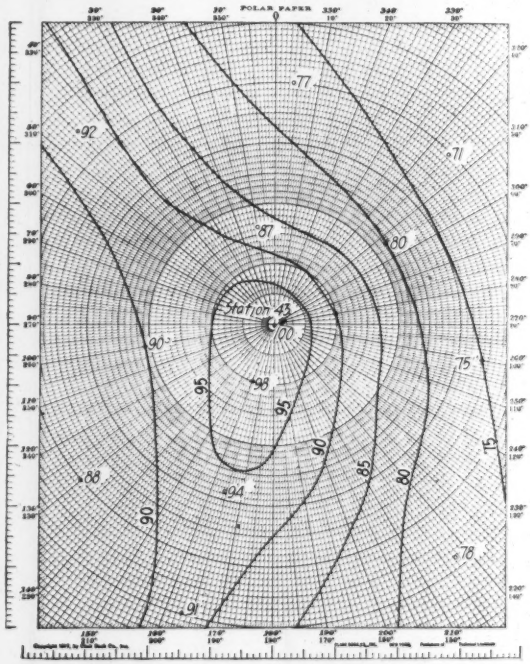
STANDS MUCH ROUGH HANDLING

obtain a method of easily supporting side forms for grade, 2 x 2-in. wooden stakes are driven to the proper elevation of the bottom of the form; and they, in conjunction with alignment stakes which are not shown, and together with the method of staggering the joints, make a satisfactory arrangement. Figs. 2 and 3 show details of wooden side-form construction, Fig. 2 showing the angle iron extending 6 in. beyond the end to insure that adjacent forms will be maintained at the same elevation. Fig. 3 shows a modified design that prevents the angle iron from becoming easily bent when the forms are roughly handled, while Fig. 4 shows a side form made entirely of wood.

Reducing the Cost of Plotting Stadia Notes

By CHARLES R. THOMAS
Assistant Engineer, Construction Service Co., 15 William St., New York

BY PLOTTING stadia notes on separate sheets such as are shown in the accompanying sketch and tracing the finished map from these sheets, the cost of plotting stadia notes has been materially reduced and the speed al-



SPEEDS UP INTERPOLATION—INCREASES ACCURACY

most doubled. Plotting topography by this method becomes independent of drafting-room equipments, a lead pencil being the only tool required.

The ordinary method of procedure is to sketch the topography in heavy pencil lines and either paste the sheets together for the draftsman or send them to him separately. The sheets are placed under the tracing cloth, and the finished tracing is made directly from them. The paper used for ordinary work is 8½ x 11 in. in size. Using a scale of 100 ft. to the inch, a length of 1000 ft. and a width of 600 ft. of topography may be plotted on each sheet. Topography may be plotted by surveyors on rainy days, either in the field or in the office, several men working independently on separate parts of the notes. It is remarkable how much the use of a graduated paper speeds up the interpolation of contours and increases the accuracy of scaling.

This method of plotting topography was developed during the past year by R. T. Dana, chief engineer of the Construction Service Co., using polar coördinate paper secured from the Clark Book Co., New York.

Tinned Copper Is No Better Than Tin Plate as a Roofing Material

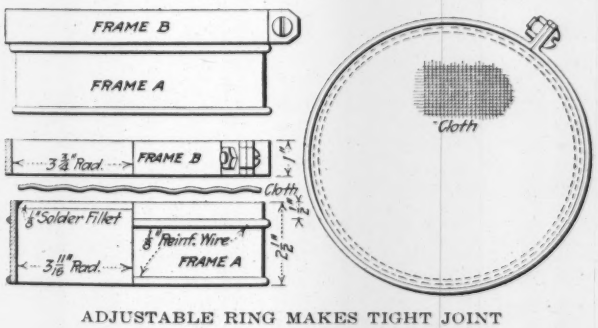
THE Bureau of Standards has recently investigated the unusual and interesting corrosion of the roofing material of the Library of Congress. This building has been covered since about 1893 by tinned sheet copper that has become covered within the last 10 or 15 years with small pits; in many cases these pits have extended completely through the sheet. Such a condition is interesting, particularly in view of the fact that Washington is uncommonly free from smoke, which is ordinarily understood to be a strong accelerating factor in corrosion. The investigation has shown that the corrosion was due to no accidental inferiority of the material, but that it is to be considered as characteristic of all material of this type. It appears, therefore, that tinned copper is not superior in any way to tin plate for roofing material and that in view of its greater cost can no longer compete with it.

Tinned sheet copper is used also for containing vessels such as milk cans and for fittings such as troughs, etc., for soda fountains and breweries. It is probable that such articles would also be subject to pitting corrosion of the same type if they were not worn out by actual abrasion before the corrosion had proceeded far, according to Technologic Paper No. 90.

Cost of Sieves for Testing Laboratories Reduced

SINCE in the routine testing of portland cement it is necessary to determine the fineness of samples at frequent intervals, a number of sieves must be used continuously. Where several hundred tests are made daily, many sieves of the same mesh must be available at all times. Figuring the wear and tear to which these sieves are subjected, even with the most experienced and careful operator, the replacements result in the cost of the fineness test becoming an appreciable item of expense.

The high grade of 100-mesh and 200-mesh sieve cloth may be obtained commercially. Many laboratories use this cloth with frames somewhat similar in construction

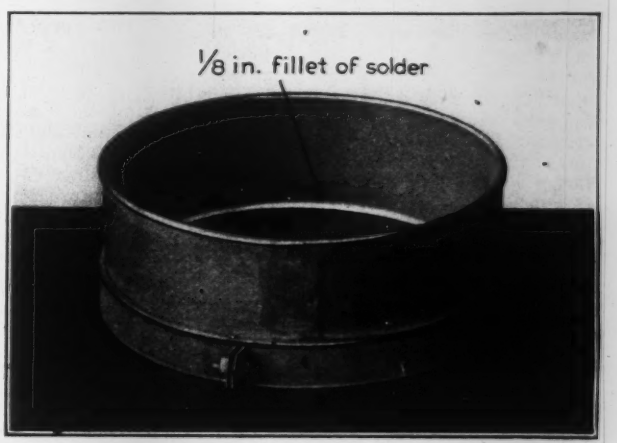


ADJUSTABLE RING MAKES TIGHT JOINT

to the ones illustrated, which are in service in the laboratory of the Universal Portland Cement Co. About 7½ in. in diameter, the frames are made of $\frac{1}{32}$-in. sheet brass and reinforced with ⅛-in. diameter wire. Sieve cloth is received in 36-in. squares and cut into 9-in. squares, which is the proper size for a 7½-in. frame. The cloth is then placed over the main frame *A*, after which the frame *B* is forced on, holding the cloth rigid and in place. If the frames are fitted properly, there is no tendency for them to separate while the sieve is in use; but if they should become loose, this difficulty may be overcome by several wrappings of adhesive tape around the sieve or by a rim provided with wings and a bolt, as shown in the illustration.

Objection to these frames is that in forcing the retaining ring over the main frame a strain, which results in eventual failure of the sieve cloth near the frame, is brought to bear. In order to permit the further use of the cloth discarded from the 7½-in. frame, several sets of frames 6½ in. in diameter are provided.

The life of a 200-mesh cloth subjected to average usage in the Universal Portland Cement Co.'s laboratory varied from one day to twenty days until some time ago, when



FILLET OF SOLDER EXTENDS LIFE OF SIEVE CLOTH THREE TIMES

the suggestion was made that a ⅛-in. fillet of solder be placed around the sieve at the inside juncture of the frame and the cloth. The results obtained are remarkably gratifying—one 200-mesh sieve that has been in service continuously for 90 days is still in excellent condition and will undoubtedly continue satisfactory for some time to come. Two other 200-mesh sieves with cloth soldered in have been in use 55 days and 63 days respectively and are still serviceable.

The results obtained by soldering 100-mesh cloths in the frames are proportionately good; 100-mesh sieves are subjected to much more severe usage than are the 200-mesh sieves, the average life of a new 100-mesh cloth having been from 7 to 10 days previous to the introduction of the fillet of solder. Several 100-mesh sieves, with the cloth soldered in, have been in continuous use for 19 days and are still satisfactory, while two others gave 37 days' service each with slight repair. From this experience, the soldered fillet seems to increase the average life of the cloth at least threefold.

The cost of soldering is negligible. When a cloth can no longer be used in a 7½-in. frame, it can be cut out and soldered into the 6½-in. frame. In addition to the great saving in sieve cloth, experience indicates that it takes less time to determine the fineness of a sample, as there is no opportunity for the residue to be retained between the cloth and the frame, as was sometimes the case with the previous design. For the same reason, the fineness results obtained by different operators on the same sample will check more closely.

NEWS OF THE WEEK

Current Events in the Civil Engineering and Contracting Fields

Los Angeles Becomes Shipbuilding Center

New Company Incorporated for $1,500,000 Is Constructing Steel Food Ships

A new shipbuilding company was recently incorporated in Los Angeles as the Los Angeles Shipbuilding & Drydock Company, having a capital of $1,500,000, all subscribed. Within a few hours after the completion of the organization of the company a permit for the construction of the plant was issued by the City Building Department and excavations were under way. The grounds for the plant consist of 70 acres in the west basin of the inner harbor of Los Angeles, about 30 acres of which will be used at this time. The plans for the first unit provide for a dozen buildings, large yards, and four building ways.

Within a short time three dredgers will be working night and day filling in portions of the site. Each of the four shipways to be laid out at this time will be 500 feet long by 60 feet wide. Three more ways will be built when the second unit of the plant is added. Among the large structures to be built this summer will be the laying out buildings, the main machine shops, foundry and carpenter shops, general warehouse and buildings for auxiliary construction, together with main office buildings. There will also be a wharf 500 feet long by 60 feet wide equipped with "sheer long" and other lifting machinery. One of the modern features of the works will be a complete aërial tramway system. The next step in the construction will be the building of a 50,000 ton drydock 750 feet long by 90 feet wide.

Has Contract for 8 Ships

The company has contracts from the United States Shipping Board Emergency Fleet Corporation for the construction of eight steel vessels. It is expected to have the keels of four of them laid by July or August. Each of the eight ships contracted for will have a dead weight of 8800 tons and will be 420 feet in length with a 56 foot beam, and will cost in excess of $1,500,000. By the terms of the company's agreement with the Board the first and second ships are to be delivered in April of next year, the third and fourth ships in May, the fifth and sixth in September and seventh and eighth in October. It is expected that the company will have 1000 men in its employ by July and at least 3000 when construction is well under way. Mr. Fred. L. Baker, head of the Baker Iron Works, is the President and Treasurer of the company. Mr. Fred. A. Gardner will be the Superintendent and Chief Engineer.

Asks for $1,000,000 for Submarine Base at Panama

Secretary Baker has sent a communication to the House, asking for an extra appropriation of $902,625 for the new submarine base at Coco Solo Point, Panama, Canal Zone. The original appropriation carried in this year's sundry civil bill was $750,000.

Portland To Build More Docks

On June 4 Portland, Ore., voted to issue $3,000,000 in bonds for the purpose of improving the port. The Dock Commission's plan is to construct a first unit bulk elevator of a capacity of 1,000,000 bushels and in connection with the handling of grain, a dock or warehouse approximately 1000 feet long and about 175 feet wide. The proposed layout provides for pier and slip construction and this will include the facilities mentioned above and also a large open dock area to be used for handling bulk material such as lumber, rails, structural steel and other commodities which do not, as a rule, require shedded space.

It is expected that the immediate construction, including the cost of the site will be in the neighborhood of $2,000,000—the remaining $1,000,000 of the bond issue to be held in reserve for such future requirements as may be demanded by shipping.

Engineers Organize in Baltimore To Develop Palestine

A number of civil, mechanical and electrical engineers who are delegates to the convention of the Federation of American Zionists which is meeting in Baltimore this week organized the Zionist Society of Engineers for the purpose of lending their technical ability to the work of developing Palestine along national lines. They chose Max A. Greenberg, mechanical engineer, Chairman, and Perez W. Etkes, civil engineer of the Public Service Commission of New York, Treasurer and Secretary. The Executive Committee consists of the Chairman and Secretary, and A. P. Joseph, electrical engineer, department head of the Westinghouse Company of Pittsburgh; B. M. Halpern, electrical engineer, Newark, N. J.; Emanuel N. Mohl, Brooklyn, N. Y., and B. H. Hirschenson, mechanical engineer of the Bureau of Standards, Washington. The engineers will establish a bureau of information and offices at 44 East Twenty-third Street, New York City.

President Nominates Men for Navy Engineer Corps

Existing Vacancies Filled from List of Successful Candidates at Recent Examination

President Wilson has sent to the Senate 25 nominations to fill existing vacancies in the grade of assistant civil engineer, Corps of Civil Engineers, United States Navy.

The nominees were the successful candidates in the final examination held recently in Washington, open to the 190 candidates who had passed the preliminary examinations and who represented 47 colleges and 29 states. Of this number, 62 candidates passed the preliminary examination and 53 presented themselves for the final examination, of whom 16 failed to qualify physically. Thirty-seven took the written examination, and out of this number 25 qualified and have been nominated for appointment as assistant civil engineers, with the rank of lieutenant (junior grade). The 25 men nominated represent 14 colleges and come from 9 states.

The examination was open to men under 26 years of age who had received an engineering degree from a college or university of recognized standing and who had had no less than 18 months' practical professional experience since graduation. The nominees are:

Name	Legal Residence	College or University
Cuthbert P. Conrad	Wisconsin	University of Wisconsin
Roy E. McCorkindale	Massachusetts	Rensselaer Polytechnic Institute
Ben Morcel	Missouri	Washington University
Robert L. Pettigrew	Wisconsin	Montana State College
Carl A. Trexel	Iowa	State University of Iowa
Kendal B. Bragg	Ohio	University of Wisconsin
Thomas J. Shack	New York	Massachusetts Institute of Technology
Alden K. Fogg	Illinois	University of Illinois
Arthur F. Peaslee	Massachusetts	Massachusetts Institute of Technology
Robert E. Thomas	Illinois	University of Illinois
Edward C. Seibert	Maryland	Lehigh University
Walter N. Moore	Missouri	University of Kansas
George W. Plaisted	Massachusetts	Worcester Polytechnic Institute
Arthur H. Bond	Massachusetts	Massachusetts Institute of Technology
Joseph J. Strachan	New York	Massachusetts Institute of Technology
Hector C. Griswold	New York	Rensselaer Polytechnic Institute
William H. Smith	Massachusetts	Massachusetts Institute of Technology
Henry G. Lehrbach	New York	Cornell University
Thomas E. Dunham	New York	Rensselaer Polytechnic Institute
Henry Niemann	Massachusetts	Massachusetts Institute of Technology
James L. McDonald	New York	New York University
Robert S. Johnson	Iowa	Iowa State College
Edward L. Marshall	Massachusetts	Tufts College
Richard H. Gifford	Delaware	Lehigh University
George D. Wetsel	New York	Rensselaer Polytechnic Institute

Here Are the 16 Contractors Who Will Build the National Army Cantonments

Name of Firm	Location of Camp
Bates & Rogers Construction Co., Chicago	Rockford, Ill.
Thompson Starrett Co., N. Y.	Yaphank, L. I., N. Y.
Smith, Hauser & MacIsaac, N. Y.	Annapolis Junction, Md.
Rinehart & Dennis, Charlottesville, Va.	Petersburg, Va.
F. T. Ley & Co., Springfield, Mass.	Ayer, Mass.
Erwin & Leighton, Phila.	Wrightstown, N. J.
Hardaway Contracting Co., Columbus, Ga.	Columbia, S. C.
Arthur Tufts, Atlanta, Ga.	Atlanta, Ga.
A. Bentley Sons Co., Toledo, Ohio	Chillicothe, Ohio.
Mason & Hanger, Lexington and Richmond, Ky.	Louisville, Ky.
Porter Bros., Portland, Ore.	Battle Creek, Mich.
Charles Weitz Sons, Des Moines, Ia.	Des Moines, Ia.
George A. Fuller Co., N. Y.	Fort Riley, Kan.
Stone & Webster, Boston	Fort Sam Houston, Tex.
Hurley & Mason, Tacoma, Wash.	American Lake, Wash.
James Stewart & Co., N. Y. and St. Louis	Little Rock, Ark.

Goethals Engages Five Former Associates As Aids

Orders for Ten Steel And Four Wooden Ships Given—Marine Engines Are Building

Washington, D. C., June 24—Since discharging his two assistants, Clark and Eustis, Gen. George W. Goethals has added to the staff of the Emergency Fleet Corporation many of his former engineering associates on the Panama canal. Admiral H. H. Rousseau, who was engineer of terminal construction at Panama, was taken from the Bureau of Yards and Docks, where he was serving on the committee locating naval and coaling stations, to become his direct assistant. Major R. E. Wood, who served in Panama as chief quartermaster; F. A. Brown, who was chief inspector of materials; A. L. Bell, formerly mechanical engineer; W. R. McCann, former assistant electrical engineer, are all occupying similar positions in the Emergency Fleet Corporation.

Contracts for ten complete steel merchant ships; four complete wooden merchant vessels, and twenty wood ship hulls were announced June 25 by Major General Goethals, General Manager of the Emergency Fleet Corporation. Deliveries will be made in 1918.

The steel ships will be built by the Moore and Scott Iron Works at Oakland, Calif.; the complete wooden ships, by the Newcomb Lifeboat Company, Hampton, Va.; twelve wooden hulls by the Universal Shipbuilding Company, Harris County, Texas; four hulls by the Portland Ship Ceiling Company, Portland, Me., and four hulls by McBride & Law of Beaumont, Texas.

In addition to the ship contracts, orders for twelve vertical triple expansion marine engines were given to the Ellicott Machine Corporation of Baltimore.

In all, the Fleet Corporation has let contracts so far for 104 complete ships, 38 of steel; 32 of wood and steel, and 34 of wood. Seventy-two wooden hulls have also been ordered.

Hole Through Last of Lower East River Tunnels

Records for a Week's Progress Broken—a Lower Accident Rate Established

The last of the four east river tunnels under construction by New York City was completed on June 20 after making an unusual record for a low accident rate—only one fatality occurring in 800,000 individual decompressions. On one of these tunnels a progress of 95 ft. 4 in. was recorded for one week, comparing with a record of 88 ft. 10 in. for one of the other tunnels and with 82 ft. 6 in. made some years ago on one of the Pennsylvania R.R. tunnels. The best progress made in the tunnel for the old subway in one week was 67 ft. 10 in.

The final blast was fired by Oscar Strauss, chairman of the Public Service Commission, in the presence of D. L. Turner, chief engineer of the Commission, Robert Ridgway, chief engineer of subway construction, Clifford M. Holland, division engineer in charge of tunnel construction, several of the Public Service Commissioners, George H. Flinn and Major John F. O'Rourke of Flinn O'Rourke Co., Inc., who constructed the tunnels. For the contractor, the work in the four tunnels has been in charge of M. J. Quinn, general superintendent.

Government Places Large Order for Lumber Requirements

The Government has chosen the Southern Pine Emergency Bureau, mention of the formation of which was made in the issue of June 21, to furnish nearly 100,000,000 ft. of lumber for army cantonments and shipbuilding. The cantonment requirements are 78,000,000 ft. for use at the Louisville, Fort Riley, Little Rock, San Antonio and Chillicothe sites. For ships, 17,500,000 was asked, for eight of the fourteen vessels into which it will go are to be built near here.

Navy Department Busy on Camp Construction

Secretary Daniels Announces Locations at Which Building Are Under Way or Contemplated

Naval training camps at Philadelphia and Charleston, S. C., at each of which 5000 men can be accommodated, and Pensacola, Fla., at which 1000 additional men can be taken care of, have been completed, according to an announcement issued this week by Secretary Daniels. Seven other camps on the Atlantic coast, three on the Pacific coast, and one at Chicago, are nearing completion and a majority of them will be ready for occupancy about July 1.

The seven additional Atlantic coast camps are located as follows: Newport, R. I.; Cape May, N. J.; Key West, Fla.; Hingham, Mass.; Port Royal, S. C.; Quantico, Va.; and New Orleans, La. Others, it is understood, will be built at Gulfport, Miss., and Boston.

Pacific coast camps will include those at Mare Island, Calif.; Puget Sound, Wash.; and San Diego, Calif.

The selection of the sites for these camps has been under the direction of Rear Admiral Palmer, chief of the bureau of navigation, and the work of construction has been conducted under the supervision of Rear Admiral Harris, chief of the bureau of yards and docks.

These new camps, when completed, will provide accommodations for approximately 80,000 men at a cost of $9,000,000.

Washington Counties Issue Bonds for Irrigation Additions

On Saturday, June 16, property owners in Benton and Yakima counties, Washington, under the Horse Heaven Irrigation District, voted $18,000,000 in bonds to complete the project. About 215,000 acres can be watered for $45 per acre or 300,000 acres including reservoirs, at $87 per acre. The first meeting of an advisory committee chosen at the election, will be held with the present board on July 3, at which time the rights of the Klickitat Irrigation & Power Company, the Northwestern Electric Company and Yearsley Interests along the Klickitat River will be purchased.

The engineers on the work are: R. H. Thomson, Alaska Bldg., Seattle; O. Laurgaard, Railway Exchange Bldg., Portland, and A. J. Wiley, Butte, Mont. Attorneys for the district are: Farrell, Kane & Stratton, American Bank Bldg., Seattle; McGregor & Fristoe, of Portland, Ore., and R. B. Williamson, of North Yakima, Wash. Some of the items of construction are as follows: 150 miles of main canal, $8,000,000; two power and pumping plants, $500,000; six laterals, $1,979,000. Apparently the $18,000,000 bond issue does not cover the cost of constructing seven reservoirs, originally contemplated under a $24,000,000 bond issue, as these structures were to cost $8,833,000.

Construction Record Made On Frisco Cantonment

Regular Army Camp Built by 600 Carpenters at Rate of 15 Buildings per Day

By the careful organization of every phase of the work, the building of the cantonment at the Presidio in San Francisco has been carried out in what is believed to be record time for this kind of work. Practically all the lumber companies of the city were represented in an emergency committee which succeeded in delivering 2,500,000 ft. b.m. of lumber in just the order desired within 84 working hours. This organization was paralleled by that of the contractor in marshaling the army of about 600 carpenters and helpers who constructed the 210 buildings complete within 18 working days.

Speed—15 Buildings per Day

During the period of maximum activity the speed was 15 buildings per day, or a new building every 33 minutes. The buildings are roofed with patent roofing and equipped with terra cotta chimneys incased in galvanized iron tops. The construction referred to includes the hanging of doors and windows and the electric wiring but does not include the plumbing in lavatories, which was sublet in separate contract.

The general layout of the camp consists of four parallel rows of buildings with a main street in the center and two streets on the outside. The mess and bunk houses are 20 ft. wide and from 95 to 120 ft. in length. The contract was held by G. M. Gest, of San Francisco, for whom Harrison S. Taft was construction manager.

Cleveland Engineering Society Gets 22,000 Volumes

At the annual meeting of the Cleveland Engineering Society, held June 15, the retiring president, F. W. Ballard, made announcement that the American Society of Civil Engineers had given in trust to the Cleveland Engineering Society through the local association of the members of the American Society of Civil Engineers, all of the books of its library duplicated by books in the United Engineering Society's library, amounting to about 22,000 volumes. The donation is the result of the efforts of G. H. Tinker, librarian of the Cleveland Society, and of Wilber J. Wharton, president of the Cleveland Association of the American Society of Civil Engineers.

At the same meeting honorary membership was conferred upon Ambrose Swasey and S. G. Wellman, both past presidents of the Cleveland Society. The occasion was the 37th annual meeting of the Society and the attendance was about 300. J. H. Herron, whose biography appears on a succeeding page, was inaugurated as president for the coming year.

Contract Let for New Flying Field in Illinois

The Signal Corps announced on June 22 the letting of the contract for the fourth of the new Government flying fields, to be built at Belleville, Ill., 23 miles from East St. Louis. It will be a standard two-squadron field, accommodating 300 student fliers, with the requisite number of officer instructors, mechanics, and enlisted men, and providing hangars for 72 training planes. Construction of the buildings and the preparation of the field will begin immediately.

The locations of the fields already announced are Dayton, Ohio; Mount Clemens, near Detroit, Mich.; and Rantoul, near Champaign, Ill. The Government's present plans contemplate letting the fifth contract in about two weeks and the remaining four of the nine fields already authorized at successive intervals of two weeks thereafter.

The preparation of the three fields already started has been made an emergency job, and the Chanute Field, at Rantoul, Ill., is already nearly half done. The contract for Chanute Field was let on May 24 and work began on May 27. Substantial progress has also been made on the big four-squadron Wilbur Wright Field at Dayton and the Selfridge Field at Mount Clemens, Detroit. The authorities hope to have men flying on all three of these fields by the middle of the summer.

Cuban Construction Active, Says Commerce Expert

New sugar mills, railway construction, port improvements and hotel building in Cuba, as a result of the large crop and high prices of sugar, will soon make that island an excellent market for American construction machinery and materials, according to Special Agent W. W. Ewing, of the Bureau of Foreign and Domestic Commerce.

A number of new sugar mills are projected for this season, and considerable railway construction and extension are being planned. The prosperity brought to the island by the unusual sugar crop will result, according to Mr. Ewing, in much heavier general traffic, which will require additional wharf and warehouse space. Sites have been acquired, and plans are being prepared for modern hotel buildings at a number of points to meet the demands of tourist travel. Many other indications of engineering activity are to be seen in all parts of the island.

The United States is in the best position to supply the materials needed for such improvements, according to Mr. Ewing's report, which is entitled "Markets for Construction Materials and Machinery in Cuba," special agents series No. 139, and which may be obtained in the usual way at any of the offices of the bureau or from the superintendent of documents at Washington.

National Guard Engineers Ordered Into Service

Companies from Fifteen States Will Do Preliminary Work on Cantonments

Orders have gone to the governors of 15 states to muster into the Federal service 16 companies of engineers of the National Guard, who will be assigned to do the preliminary engineering work on the 16 sites for cantonments for the National Army.

One company each has been ordered from Massachusetts, New York, Pennsylvania, South Carolina, Georgia, Ohio, Indiana, Michigan, Illinois, Mississippi, Iowa, Kansas, Texas, and California, and two companies from New Jersey.

These are the first companies of engineers to be called into service since the beginning of the war. The present work of each company will be to plot out the site chosen for the cantonment, to prepare preliminary plans showing the contractor where sewers, water pipes, roads, regimental camps, and all necessary buildings and other works are to be placed.

Second Engineer Regiment To Be Recruited to 1141 Men

Col. Curtis McD. Townsend, Commander of the Second Engineers' Reserve Regiment, being recruited in St. Louis, today received instructions from the War Department to raise the strength of the regiment 10 per cent., or 103 men, to make the total roster 1141 men. Colonel Townsend has 935 enlisted. He expects to take the men into camp at Waterworks Park this week.

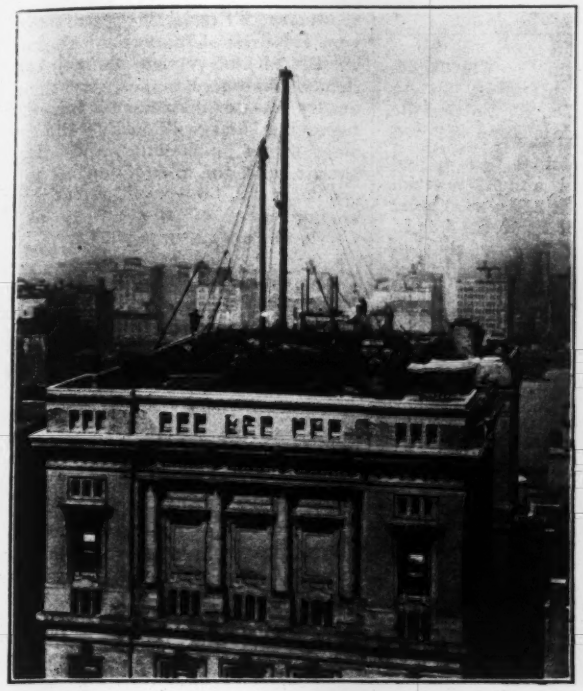
Harrison Shows Railroads Are Handling Heavier Tonnage

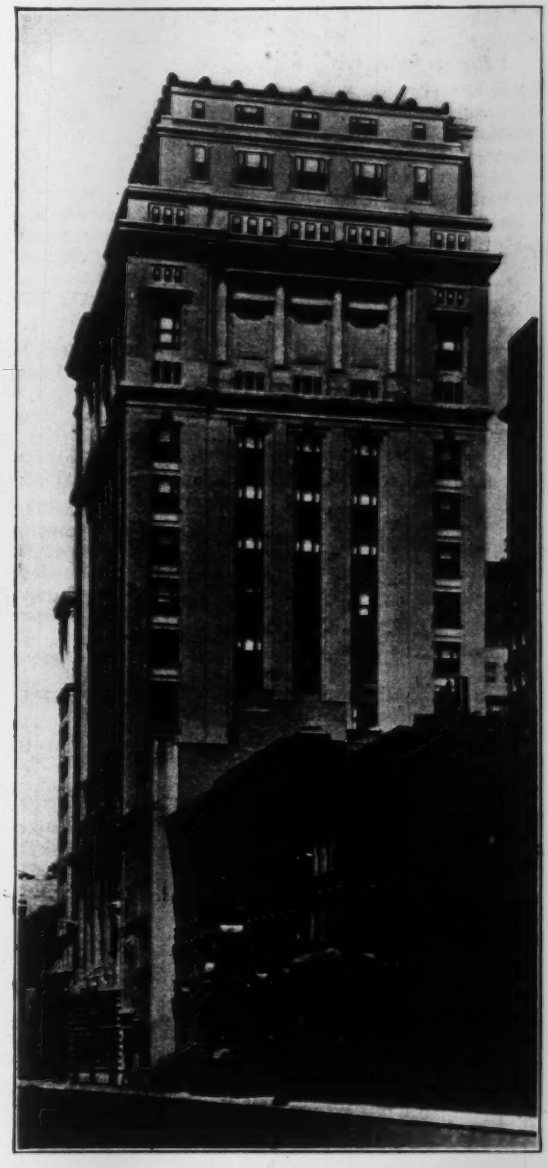
That real headway is being made in the effort to save the time of freight cars by quick and prompt loading and unloading is brought out in the figures given out by Fairfax Harrison, president of the Southern Ry. and chairman of the railroads' war board, which show that the daily average of cars loaded with bituminous coal each working day in May of this year was 28,449, an increase of 23.8 per cent. over May, 1916, and of 8.1 per cent. over April, 1917.

According to the Government figures now compiled, the 62 principal bituminous-coal-carrying railroads in May, 1917, hauled 142,157 more carloads of coal—approximately 7,100,000 tons—than they did in May, 1916. This was an increase of 23.8 per cent. The railroads hauled 739,674 carloads of bituminous coal in May of this year, compared with 597,517 cars in May, 1916.

In the month of May, while this greatly increased tonnage of bituminous coal was being handled, the railroads reduced the so-called car shortage from 148,627 on May 1 to 105,127 cars, almost one-third.

Engineering Societies Building Nearly Completed





The structural work of adding three stories to the Engineering Societies Building on 39th St., New York City, to provide necessary space for the American Society of Civil Engineers, is nearly completed and it is hoped that the new space can be occupied in the early fall. The work consists in building four new columns through the old frame and carrying the new stories on heavy trusses spanning the columns. As shown in the right-hand view, the addition has a tower effect, common to some of the newer types of New York skyscrapers, and fits in very well with the architectural design of the old building. The architect is H. G. Morse; the structural engineers, Purdy & Henderson, and the contractor, the Wells Construction Company.

Forestry Regiment Recruiting Now Under Way

As announced in the issue of May 24, p. 427, a forestry regiment will accompany the corps of engineers to France to help in the economical use of French timber. Recruiting for this unit is now under way and men wishing to enlist in this branch of the service should apply to the nearest of the following listing offices:

F. H. Colby, forest commissioner, Augusta, Maine; J. S. Benedict, United States Forest Service, Gorham, N. H.; E. C. Hirst, state forester, Concord, N. H.; Harris A. Reynolds, 4 Joy St., Boston, Mass.; W. O. Filley, state forester, New Haven, Conn.; C. R. Pettis, superintendent of state forests, Albany, N. Y.; J. S. Illick, Pennsylvania Department of Forestry, State Forest Academy, Mount Alto, Penn.; F. W. Besley, state forester, Johns Hopkins University, Baltimore, Md.; H. L. Johnson, United States Forest Service, Elkins, W. Va.; S. H. Marsh, United States Forest Service, Harrisonburg, Va.; Verne Rhoades, United States Forest Service, Asheville, N. C.; H. G. Spahr, United States Forest Service, Blue Ridge, Ga.; E. P. Bushnell, United States Forest Service, Johnson City, Tenn.; Edmund Secrest, state forester, Wooster, Ohio; T. B. Wyman, Munising, Mich.; W. T. Cox, state forester, St. Paul, Minn.; G. E. Marshall, United States Forest Service, Cass Lake, Minn.; F. B. Moody, conservation commissioner, Madison, Wis.; J. H. Foster, state forester, College Station, Tex.; the Forester, United States Forest Service, Washington, D. C.; district forester, United States Forest Service, Federal Building, Missoula, Mont.; district forester, United States Forest Service, New Federal Building, Denver, Colo.; district forester, United States Forest Service, Gas and Electric Building, Albuquerque, N. M.; district forester, United States Forest Service, Forest Service Building, Ogden, Utah; district forester, United States Forest Service, 114 Sansome St., San Francisco, Calif.; district forester, United States Forest Service, Beck Building, Portland, Oregon.

The listing of applicants by the foregoing officers does not insure their final acceptance, but is necessarily the preliminary step to be taken.

Engineers on Cantonment Construction Are Named

Will Have Title of Constructing Quartermaster—Many Are Chosen from Civil Life

Actual construction work at each of the 16 cantonments to be erected for the new National Army will be in charge of an officer of the Quartermaster Corps, either Regular or Reserve, to be known as the constructing quartermaster.

Under him will be an assistant quartermaster.

The constructing quartermaster will be in full charge at each cantonment, directing the laying out of the buildings and supervising for the Government the entire work of construction as carried on by the contractor.

The personnel of the constructing quartermasters includes a number of well-known civilian engineers who have been given major's commissions in the Quartermasters' Reserves Corps. In addition several officers of the Regular Army Quartermasters' Corps are acting in executive capacity.

Men Appointed from Civil Life

Among the men appointed from civil life are: Maj. O'Kelly Williams Myers, an engineer of the New York water department, who will be in charge at Yaphank, L. I.; Maj. Ralph Fenne Proctor, chief engineer of a Baltimore bonding company, who has been assigned to the cantonment at Annapolis Junction, Md.; Maj. William Couper, an engineer for the Pennsylvania R.R., who will be at Columbia, S. C.; Maj. James Norman Pease, principal assistant engineer of the Lockwood-Green Construction Co., of Columbus, Ga., who will be at the head of operations at Atlanta; Maj. Frank Elmer Lamphere, assistant engineer of the Baltimore & Ohio Co. at Chicago, assigned to Louisville, Ky.; Maj. Earle Bell Morden, a St. Paul railroad engineer, who will be at Battle Creek, Mich.; Maj. Donald Hubbard Sawyer, of Spokane, Wash., to be in charge at Rockford, Ill.; Maj. John R. Fordyce, a civil engineer of Little Rock, Ark., who will supervise the construction of the cantonment in that city; Maj. Millard Angle Butler, a St. Paul railroad engineer, to be in charge at Des Moines.

Regular Army officers named as constructing quartermasters are: Capt. Edward Canfield, Jr., Ayer, Mass.; Maj. Harry C. Williams, Wrightstown, N. J.; Capt. Frank B. Edwards, Petersburg, Va.; Capt. Ward Dabney, Chillicothe, Ohio; Capt. Frank J. Horman, Fort Riley, Kan.; Capt. George E. Thorne, Fort Sam Houston, Tex.; and Capt. David L. Stone, American Lake, Wash.

The following officers have been named as assistant quartermasters: Capt. Graham Parker, Annapolis Junction; Capt. Thomas W. Holliday, Columbia, S. C.; Capt. Mark L. Ireland, Louisville; Capt. Manuel N. Garrett, Battle Creek; Capt. Owen G. Collins, Rockford; Capt. Joseph C. Kay, Des Moines.

Engineering Societies

The Brooklyn Engineers Club made an excursion to the plant of the Atlantic Terra Cotta Co., at Tottenville, Staten Island, Saturday, June 23.

The National Municipal League will hold its twenty-third annual meeting in Detroit, Mich., Nov. 21 to 24, having headquarters at Hotel Statler. For information concerning this meeting address the secretary, Clinton Rogers Woodruff, 703 North American Building, Philadelphia.

The Steel Treating Research Club of America, having had its offer of service to the Government accepted, desires that its members communicate with headquarters in Detroit, stating the exact character of work which they are best qualified to take charge of.

The Pacific Northwest Society of Engineers met June 16 in the Chamber of Commerce, Seattle, to hear a paper by H. E. Fowler, assistant superintendent of buildings, Seattle, on "Tests of Flat Slabs in American Can Co.'s Building." Charles V. E. Dove read a paper on "An Automatic Stoker."

Engineering Schools

The University of Wisconsin announces that the nineteenth annual summer session of the College of Engineering will be held at Madison during the six weeks' period beginning June 25, 1917. Special courses will be given in chemistry, electrical, steam and hydraulic engineering, gas engines, machine design, mechanical drawing, mechanics, shop work and surveying. All courses given in the summer session are open to engineering students. Special courses have been arranged for enginering, manual arts and vocational teachers.

The Massachusetts Institute of Technology has started nine special courses of study for military or naval purposes, as follows: Early work on internal-combustion engines; an intensive course in naval architecture; the "cram" courses for students wishing to take army engineering examinations; special aëronautical courses; special 12 weeks' summer military camp at Camp Cunningham; courses for first-officer examination, a school which is being conducted by Technology in different places on the coast for the convenience of local groups of seamen; special junior military school in the Tech Building in Cambridge; and special courses for naval-officer examinations.

The College of the City of New York announces a course of 15 two-hour lectures and seven field series especially planned for the members of those military units in which a knowledge of map making, topographic sketching, use of surveying and mapping instruments is necessary. The lectures will cover in very close detail the various methods of horizontal and vertical control, estimations of distances, slopes, elevations and grades, uses of instruments for military surveying, and will outline the fundamentals of sketching and traverse boards, and the planetable. The field problems will be worked out at the surveying camp of the college at Van Cortland Park, New York City.

Personal Notes

Mark G. Cohn, who has been chief deputy in the Building Department of Los Angeles, Calif., has accepted the position of director of the California State Housing and Immigration Commission.

Thomas Maddock has been appointed to the office of state engineer of Arizona.

J. R. McDermott, who acted as road inspector in Trumbull County, Ohio, is now field inspector with the Portland Cement Association, with headquarters at Pittsburgh.

John W. Bulger is now connected with the county engineering office of Coshocton County, Ohio, of which **A. H. Shaw** is in charge.

Erich A. Mees, for more than five years engineer and superintendent of construction with Tucker & Laxton, Inc., contracting engineers, Charlotte, N. C., has resigned his position with the above firm to enter into a partnership with his brother, **Curtis A. Mees,** consulting engineer. Mr. Mees will have his office at 310 Trust Building, Charlotte.

R. E. Ezell, who has been with the Southern Ry. for the last 19 years, recently resigned as principal assistant civil engineer of that railway and retired from professional service.

Alex G. Hoffman, formerly with the valuation department of the Pennsylvania R.R., is at present with the Schuylkill Bridge Works at Pottstown, Pennsylvania.

S. B. Newman and **M. F. Cavallon,** both of whom were formerly connected with the Masters Builders Co., have formed a new partnership under the name of the Newman-Cavallon Co., with offices at 8 West 40th St., New York City. The products of this concern will be similar in general character to those which both Mr. Newman and Mr. Cavallon have been handling for the last several years.

Samuel Insull, president, Commonwealth Edison Co., Chicago, was given the degree of doctor of science, honoris

causa, at the one hundred and twenty-fifth commencement exercises of Union College, Schenectady.

Robert **L. Fox**, formerly city engineer of Batavia, N. Y., has accepted a position as assistant engineer on the construction of the sanitary sewer system at Johnstown, Pennsylvania.

Will **Rights**, of Purdue University, has been selected assistant engineer to the State Highway Commission of Indiana and will act as secretary to the commission until the state engineer is appointed.

S. T. Cantrell, superintendent, Baltimore & Ohio R.R., with headquarters at Philadelphia, has been granted a leave of absence during his time of service with the Government on railroad work in Russia. **R. B. White**, superintendent, Seymour, Ind., will be transferred to Philadelphia.

W. I. Risley has been granted a six months' leave of absence from his duties as city engineer of Ventnor City, N. J., to receive training with the Engineer Officers' Reserve Corps. **Eugene Somers**, who prior to 1912 was principal assistant to the county engineer, Atlantic County, N. J., and for the past two years assistant engineer in the Engineering Department of Woonsocket, R. I., has been designated acting city engineer for the period of Mr. Risley's absence.

E. C. Koppen, formerly on the Carlsbad project at Carlsbad, N. M., has been appointed assistant engineer, United States Reclamation Service, with headquarters at Klamath Falls, Oregon.

M. H. Montross is at present with the New York State Conservation Commission, under **Alex Wright McKim**, inspector of docks and dams, with headquarters in Buffalo.

M. H. Doyne, who has been in charge of extensive railroad surveys of East St. Louis and vicinity, has been sent to Oklahoma City as resident engineer for C. E. Smith, consulting engineer, St. Louis, in charge of the construction of the Oklahoma Belt Ry. At one time Mr. Doyne was connected with the Public Service Commission of New York on the designs of the subway system of that city.

E. H. Jones, who for the past three years has been located in California in private practice, and as junior engineer with the Los Angeles County Flood Control District, has returned to Colorado and is now in his former position as district engineer for the North Sterling Irrigation District, Sterling, Colorado.

George C. Kenney has resigned as president of the Beaver Contracting and Engineering Corporation, Boston, Mass., to enter the army. **Paul C. Ordway**, secretary of the same company, has likewise resigned to enter the navy. **L. Gordon Glazier** becomes president and treasurer. The offices of the company have been removed from State St. to 57 Cummings Road.

Horace B. Olmsted has been appointed superintendent of highways and bridges in the town of Darien, Conn., having been previously assistant engineer for the Connecticut State Highway Commission with headquarters at New Haven.

Major P. W. Davidson, disbursing officer of the Alaska Railroad Commission and inspector in chief of the National Guard of Alaska, recently transferred the headquarters of the Alaska Railroad Commission to Juneau, from Valdez, Alaska.

Marvin Chase was recently appointed hydraulic engineer for the State of Washington. This position was created by the Water Code passed at the last session of the state legislature. Mr. Chase has been for 30 years a hydraulic engineer, and for the past 25 years has been connected with irrigation projects. In 1901 he superintended the old Sunnyside canal, then owned by the Washington Irrigation Co. He resigned that year and associated himself with W. T. Clarke in enlarging the old Selah canal, later going to Billings, Mont., to install an irrigation canal. Mr. Chase is a past president of the Pacific Northwest Society of Engineers.

O. E. Eltinge, chief draftsman, sewer division, Kansas City department of engineering, has been granted a three months' leave of absence to accept a temporary position as second in charge of laying out training camps at Fort Riley, Kan., under Maj. H. H. Roberts, Corps of Engineers, U. S. Army.

Edmund B. Ulrich has been reëlected city engineer of the City of Reading, Pennsylvania.

C. R. Kulp, division engineer on the Chicago & North Western, at Antigo, Wis., has been appointed trainmaster at Benld, Ill., succeeding **F. R. Lloyd.**

E. J. Correll, district engineer maintenance-of-way of the southwestern district of the Baltimore & Ohio, with headquarters at Cincinnati, Ohio, and formerly division engineer of the Illinois division, has been appointed superintendent of the Delphos division of the Cincinnati, Hamilton & Dayton, with headquarters at Dayton, Ohio, succeeding **R. B. Mann.**

E. H. May, assistant division engineer of the Pennsylvania Lines, at Logansport, Ind., has been transferred to Fort Wayne, Ind., to succeed **H. T. Sympson.**

Christopher Johnson has been appointed city engineer of Warrensburg, Missouri.

Col. Samuel E. Tillman, who was retired in October, 1911, while serving as a professor at the United States Military Academy, has been recalled to active service and assigned to duty as superintendent of the Military Academy, relieving **Col. John Biddle**, Corps of Engineers, who has been placed temporarily in command of the 6th Regiment of Engineers. Colonel Tillman was graduated from the Military Academy in 1869, and served three years in the artillery and eight years in the engineers. In December, 1880, he was appointed an instructor at the academy and served in that capacity until his retirement in 1911.

F. S. Small is at present in charge of the revision of the original plans for the hydro-electric development at Cedars, Quebec, for Fraser, Brase & Co. Mr. Small was for 3½ years superintendent of construction for the Mond Nickel Co., Coniston, Ont., and then acting district engineer, in charge of the St. John River District, for the Canadian Department of Public Works.

J. M. Trevor, manager of the mixer department of the Chain Belt Co., Milwaukee, has been appointed New York manager of the company, representing the Rex line of concrete mixers. His office is at 30 Church Street.

A. W. Schorger, who for seven years has been connected with the Forest Products Laboratory, has resigned to take charge of organic chemistry with the C. F. Burgess Laboratories, at Madison, Wisconsin.

Arthur H. Blanchard, professor of highway engineering, at Columbia University, New York, has been retained as consulting engineer on the highway work of the New York City Board of Water Supply.

W. G. Mackendrick, president of the Warren Bituminous Paving Co., of Toronto, Ont., has been in France for the past two years building roads at the front. He was first captain in the Canadian Corps of Engineers and later a deputy assistant director of roads with charge of all roads in connection with the operation of the Fifth British Army in France, as major. He has recently been given the rank of lieutenant colonel with the same duties as before. Mr. Mackendrick has been in the business of road construction since 1890, when he was connected with the Warren-Scharf Asphalt Paving Company.

Prof. Arthur D. Winslow, head of the civil-engineering department at Norwich University, has recently been appointed city engineer of Montpelier, Vt. Professor Winslow has held positions with the Pennsylvania R.R., with the New York Board of Water-Supply on the Catskill project, and was for one year assistant engineer of the City of Everett, Massachusetts.

C. C. Cottrell, formerly connected with the California Highway Commission, has accepted a position as assistant highway engineer of Nevada and is

taking up headquarters in that state with Chief Engineer **R. K. West**, whose appointment was noted in these columns on June 7.

Harold G. McGee, sanitary engineer, Jackson, Mich., has resigned to become principal assistant to **L. A. Boulay**, Lucas County sanitary engineer, Toledo, Ohio. Previous to his engagement at Jackson, Mr. McGee was assistant engineer with the Ohio State Board of Health.

Theodore Tobish has been appointed engineer for Hamilton Township, Mercer County, N. J., and will serve as technical director for the extensive public improvements to be made there.

Harrington & Peters Co., general contractors, Seattle, Wash., have recently filed notice of dissolution of partnership. The firm was composed of **P. A. Harrington** and **E. G. Peters.** Each will continue in the contracting business under his own name, occupying separate offices in the Oriental Building, Seattle.

R. D. Goodrich, formerly manager of public utilities at Ypsilanti, Mich., has recently been appointed city engineer of Lansing, Mich. Mr. Goodrich has had about 15 years' experience in municipal and hydraulic work, being five years city engineer of Cheyenne, Wyo., during which time he designed and built a filter plant for that city and Fort D. A. Russell.

Arthur M. Torrey, formerly with W. B. Barstow & Co., Inc., has left that organization to reënter the employ of Hildreth & Co., inspection engineers, New York City, with which firm he was connected for several years prior to joining the Barstow company.

K. O. Truell, formerly connected with the Buffalo Potash and Cement Corporation as field engineer on construction, is now mechanical engineer on research at Niagara Falls for the Aluminum Co. of America.

O. L. Lockwood, formerly assistant engineer in the construction department of the Southern Ry., is now in charge of engineering and development work in connection with new coal mines being opened at Parish, Ala., for the exclusive use of the Southern Railway Company.

A. W. D. Hall, city engineer, Jackson, Mich., has been made city manager, succeeding **Gaylord Cummin**, who resigned to become city manager of Grand Rapids, as noted in these columns May 3.

Lawford Grant has been promoted to the position of managing director and treasurer of the Eugene F. Phillips Electrical Works, Ltd., Montreal, succeeding **George H. Olney**, who has been the head of that firm for 18 years. Mr. Grant was formerly engineer for the British Insulated & Helsby Cables, Ltd., of England. Among the undertakings carried out for this latter company by Mr. Grant was the electrification of the Government dock yard and naval base at Malta.

J. L. Jacobs, while still continuing in his position of southern manager for James Stewart & Co., Inc., has just moved his headquarters to Newport News, Va., to take care of plant extensions for the Newport News Shipbuilding and Dry Dock Co., in connection with its contract with the Government for two battle cruisers and two battleships. The work involves the construction of two new sets of ways and an office building.

C. H. Deaton, formerly chief engineer of the Yukon-Pocahontas Coal Co., is now in a similar position with the Leckie Collieries Co., Aflex, Ky., having charge of those things which pertain to the welfare of the employees of the company. This is a new departure and a tendency toward bettering the condition for the miner and improving the understanding between the operator and the employee.

R. E. Boyce has returned to Camden, N. J., as resident engineer of sewer construction on work which was not completed last fall due to labor shortage.

Walter L. Watson, formerly resident engineer for J. F. Witmer Co., at Ironton, Ohio, is superintendent for the Gaylord Construction and Engineering Co., Scranton, Penn., in the installation of a water system and reservoir for Indianapolis.

J. G. Kaulfuss, at various times with the Wisconsin State Highway Commission, the Highway Commission of Maine, instructor in engineering at the University of Maine and connected for a short time with the Office of Public Roads, has been appointed field man and publicity agent for the North Dakota State Highway Commission.

Obituary

James M. Courtright, who was prominently identified with the building of the Canada Southern Ry., died recently at his home in Inwood.

James Warren, who was civil engineer and land surveyor for the County of Halton and the County of Bruce, died recently at Walkerton, Ont. For over 30 years Mr. Warren was in the employ of the Dominion Government on survey work.

George A. Stewart, for many years chief engineer of the Midland Ry., who built many of the largest bridges on that system, died recently at Victoria, British Columbia.

James Mason Crafts, president of the Massachusetts Institute of Technology from 1898 to 1900, died June 19 in Ridgefield, Conn. Having served two years as professor of chemistry at Cornell, Mr. Crafts became head of the department of chemistry at the Institute and was identified with it as a leader in research work in this country and abroad.

Charles S. Hall, engineer of track elevations, Chicago & Northwestern Ry., died June 15 at the age of 60. Mr. Hall graduated from the Iowa State University and had served 28 years in the engineering department of the Northwestern Ry. and 6 years with the Great Western Railway.

Sir Alexander Richardson Binnie died May 18, at Beer, Devon, England, at the age of 78 years. Sir Alexander received his early education in the private schools and then served a regular term of pupilage under Terence Wolfe Flannagan and John Frederic LaTrobe Bateman. From 1862 to 1866 he was engaged in various works for the Welsh railways; for part of this time acting as assistant engineer on the Mid-Wales Lines under John Watson and Richard Smallman, and was also employed on the Neath & Breton Ry. under J. G. McKenzie, and on the extension of the Pembroke & Tenby Ry. under John Mathias. Having practiced for a few years as a consulting engineer, in January, 1868, he was appointed to the Public Works Department and proceeded to India as executive engineer in railway service and in the preparation of projects for the supply of water to several stations. In 1871 he was made assistant to the chief engineer. Returning to England in 1875, he held the position of water engineer at Bradford for 15 years. In 1890 he became chief engineer to the London County Council, which position he held down to 1901. During this period he made an investigation and reported on the project of supplying London with water drawn from North Wales, comparing this supply with that taken from the River Thames. During this same period the sewage-disposal works at Barking and Crossness were completed and the Barking Road bridge over the River Lea was built. He was responsible also for the construction of the Blackwall vehicular tunnel under the River Thames. He was elected an associate member of the Institution of Civil Engineers in February, 1865, and a full member in May, 1873. He was president of the institution in 1905, and received on different occasions the Telford Medal, the George Stephenson Medal and the Telford Premium. He was also a member of the Institution of Mechanical Engineers.

Donald Grant, who for 12 years was a partner of Foley Brothers, railroad contractors, of St. Paul, died suddenly June 14. Mr. Grant was born in Glengarry, Canada, in 1837, and came to Minnesota in 1868 to engage in railroad-construction work on the Chicago, Milwaukee & St. Paul. He also built many miles of the Soo, Great Northern, Northern Pacific, Wisconsin Central, Minneapolis & St. Louis, and the Canadian Pacific.

PRICES and CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

IRON AND STEEL

Pig Iron—Below are the present quotations, with a comparison of a month and a year ago:

	Mar. 29, 1917	One Month Ago	One Year Ago
CINCINNATI			
No. 2 Southern foundry	$32.90	$27.40	$18.40@18.90
No. 2 Northern foundry	37.26	34.26	20.26
NEW YORK			
No. 2X Northern foundry	40.70	32.00@32.50	20.50@20.75
No. 2 plain Northern foundry	39.20	31.00@31.50	20.00@20.50
No. 2 Southern foundry†	34.25	29.00@30.00	20.25@20.50
BIRMINGHAM			
No. 2 Southern foundry	30.00	24.50	15.00@15.50
CHICAGO			
No. 2 Northern foundry	38.00	33.00	19.00
PITTSBURGH			
Bessemer iron*	38.95	35.95	21.95
Basic iron*	35.00	30.95	19.20

*These prices include the freight charge from the valley to the Pittsburgh district. †Delivered Tidewater, New York.

Pipe—The following discounts are for carload lots f.o.b. Pittsburgh, in effect Mar. 5, 1917:

Butt Weld

Steel Inches	Black	Galvanized	Iron Inches	Black	Galvanized
¾ to 3	55%	41½%	¾ to 1½	50%	36%
Lap Weld					
2	48%	35½%	1¼	36%	21%
2½ to 6	51%	38½%	1½	42%	34%
7 to 12	48%	34½%	2	43%	29%
13 and 14	38½%	....	2½ to 4	45%	32%
15	36%	....	4½ to 6	45%	32%
			7 to 12	44%	31%
Butt Weld, Extra Strong Plain Ends					
¾ to 1½	53%	40½%	¾ to 1½	51%	36%
2 to 3	54%	41½%			
Lap Weld, Extra Strong Plain Ends					
2	46%	34½%	1¼	38%	23%
2½ to 4	49%	37½%	1½	43%	29%
4½ to 6	48%	36½%	2	45%	32%
7 to 8	44%	30½%	2¼ to 4	47%	35%
9 to 12	39%	25½%	4½ to 6	46%	34%
			7 to 8	40%	28%
			9 to 12	35%	23%

From warehouses at the places named the following discounts hold for steel pipe:

	Black		
	New York	Chicago	St. Louis
¾ to 3 in. butt welded	54%	54.8%	53.27%
2½ to 6 in. lap welded	47%	50.8%	49.27%
7 to 12 in. lap welded	40%	47.8%	46.27%

	Galvanized		
	New York	Chicago	St. Louis
¾ to 3 in. butt welded	38%	40.8%	38.27%
2½ to 6 in. lap welded	29%	37.8%	35.27%
7 to 12 in. lap welded	16%	33.8%	31.27%

Malleable fittings, Class B and C, from New York stock sell at 15 and 5% from list price. Cast iron, standard sizes, 42½ and 5%.

Rivets—The following quotations are per 100 lb.:

Structural

	Mill, Pittsburgh	Warehouse: New York	Chicago	St. Louis	San Francisco	Dallas
¾ in. and larger	$4.75	$5.75	$4.75	$4.80	$6.40	$7.00
Cone Head Boiler						
¾ in. and larger	4.85	5.85	4.85	4.90	6.50	7.10
⅞ and 1	5.00	6.00	5.00	5.05	6.65	7.25
1¼ and 1⅜	5.35	6.35	5.35	5.40	7.00	7.55

Lengths shorter than 1 in. take an extra of 50c. Lengths between 1 in. and 2 in. take an extra of 25c.

Bars, Concrete Reinforcing—The following quotations are per 100 lb.:

BILLET

In.	Mill Shipment	Warehouse: New York Mar. 29, 1917	New York One Month Ago	St. Louis	Chicago	Dallas	San Francisco
¾ and larger	$3.35	$4.45	$4.10	$3.59	$4.25	$4.75	$4.35
⅞	3.40	4.55	4.20	3.64	4.30	4.80	4.40
1	3.45	4.65	4.30	3.69	4.35	4.85	4.45
1¼	3.60	4.80	4.45	3.84	4.50	5.00	4.60
1½	3.85	5.15	4.80	4.09	4.75	5.25	4.85

RAIL

	St. Louis	Dallas		St. Louis	Dallas
¾ and larger	$3.25	$4.50	⅜	$3.50	$4.75
	3.30	4.55	¼	4.25	5.00
	3.35	4.60			

Sheets—Quotations are in cents per pound in various cities from warehouse, also the base quotation from mill:

Blue Annealed	Large Lots, Pittsburgh	St. Louis	Chicago	San Francisco	New York	Dallas
No. 10	5.15	5.55	5.50	7.00	6.00	5.50
No. 12	5.00	5.60	5.55	7.05	6.05	5.55
No. 14	4.80	5.65	5.60	7.10	6.10	5.60
No. 16	...	5.70	5.65	...	...	...
Black						
Nos. 18 and 20	5.30	5.55	5.70	7.45	6.30	5.55
Nos. 22 and 24	5.35	5.60	5.75	7.55	6.35	5.60
No. 26	5.40	5.65	5.80	7.65	6.40	5.65
No. 27	5.45	5.70	5.85	7.75	6.45	5.70
No. 28	5.50	5.75	5.90	7.85	6.50	5.75
Galvanized						
No. 10	6.25	Premium	7.20	...	7.10	6.50
No. 12	6.30	Premium	7.20	8.24	7.15	6.60
No. 14	6.35	Premium	7.20	8.24	7.20	6.60
Nos. 18 and 20	6.60	Premium	7.40	8.54	7.50	6.90
Nos. 22 and 24	6.80	Premium	7.55	8.68	7.70	7.05
No. 26	6.95	Premium	7.70	8.83	7.95	7.20
No. 27	7.00	Premium	7.85	8.98	8.10	7.35
No. 28	7.25	Premium	8.00	9.17	8.25	7.50

Steel Rails—The following quotations are per 100 lb. f.o.b. Pittsburgh and Chicago for carload or larger lots. For less than carload lots 5c. per 100 lb. is charged extra:

	Pittsburgh	Chicago
Standard bessemer rails	$38.00	$38.00
Standard openhearth rails	40.00	40.00
Light rails, 8 to 10 lb.	58.00	55.00
Light rails, 12 to 14 lb.	57.00	54.00
Light rails, 25 to 45 lb.	55.00	52.00

Track Supplies—The following prices are base per 100 lb. f.o.b. Pittsburgh for carload lots, together with the warehouse prices at the places named:

	Mill, Pittsburgh Mar. 29, 1917	Mill, Pittsburgh One Year Ago	Chicago	St. Louis	San Francisco
Standard railroad spikes	$3.65	$2.50@2.65	$4.10	$4.15	$4.60
Track bolts	5.00@5.10	3.25	5.60	Premium	6.00
Standard section angle bars	2.35@2.85	1.50@1.75	3.50	Premium	4.35

Nails—The following quotations are per keg from warehouse:

	New York Mar. 29, 1917	New York One Year Ago	St. Louis	Dallas	Chicago
Wire	$3.65	$2.90	$3.70	$3.86	$3.65
Cut	3.65	2.90	4.00	....	3.85

Structural Material—The following are the base prices f.o.b. mill, Pittsburgh, together with the quotations per 100 lb. from warehouses at the places named:

	Pittsburgh	New York Mar. 29, 1917	New York 6 Mo. Ago	St. Louis	Chicago	San Francisco	Dallas
Beams, 3 to 15 in.	$3.75	$4.55	$3.25	$4.30	$4.50	$5.25	$4.75
Channels, 3 to 15 in.	3.75	4.55	3.25	4.30	4.50	5.25	4.75
Angles, 3 to 6 in., ¼ in. thick	3.75	4.55	3.25	4.30	4.50	5.25	4.75
Tees, 3 in. and larger	3.75	4.55	3.30	4.30	4.55	5.25	4.75
Plates	5.00	5.55	4.00	5.55	5.50	7.00	6.00

New York extras on other shapes and sizes per lb. are as follows:

I-beams over 15 in.	$0.10
Angles over 6 in., on one or both legs	.10
Angles, 3 in. on one or both legs less than ¼ in. thick	.70
Cutting to lengths, under 3 ft. to 2 ft. inclusive	.25
Cutting to lengths, under 2 ft. to 1 ft. inclusive	.50
Cutting to lengths, under 1 ft.	1.55

No charge is made for cutting to lengths 3 ft. and over.

Expanded Metal Lath—Prices per 100 yd. for painted are as follows:

Gage	Weight	New York Less Than Carload	New York Carload	Chicago	St. Louis	San Francisco	Dallas
27	233	$20.94	$21.02	*$23.50	$21.00	$21.00	$22.00
26	250	21.97	22.05	24.50	22.00	22.25	....
25	300	23.07	23.16	25.50	....	....	....
24	340	24.14	24.25	26.50	24.00	25.00	26.00
22	450	26.33	26.47	28.50	....	....	....

About 10% additional for smaller quantities. For galvanized add 8c., and 3½c. for toncan, New York; 12c. and 5s. for toncan, Chicago.
*Delivered to job.

Freight Rates—On finished steel products in the Pittsburgh district, including plates, structural shapes, merchant steel, bars, pipe fittings, plain and galvanized wire nails, rivets, spikes, bolts, flat sheets (except planished), chains, etc., the following freight rates are effective in cents per 100 lb.:

Baltimore	15.40	Minneapolis	32.90
Boston	18.90	New Orleans	30.70
Buffalo	11.60	New York	16.90
Chicago	18.90	Pacific Coast (all rail)	65.00
Cincinnati	15.80	Philadelphia	15.90
Cleveland	10.50	St. Louis	23.60
Denver	68.60	St. Paul	32.90
Kansas City	43.60		

Old Material—The prices following are per gross ton paid to dealers and producers in New York. In Chicago and St. Louis and vicinity, the quotations are per net ton and cover delivery at the buyer's works, including freight transfer charges:

	New York	
	Mar. 29, 1917	One Month Ago
Heavy melting steel scrap	$23.50@24.50	$19.50@20.00
No. 1 railroad wrought	31.00@32.00	22.00@23.00
Stove plate	16.00@17.00	14.00@14.50
No. 1 machinery cast	24.00@25.00	21.00@21.50
Machine shop turnings	13.00@13.50	11.00@11.50
Cast borings	13.50@14.00	12.00@12.50
Railroad malleable cast	22.50@23.00	19.00@19.50

	Chicago	
	Mar. 29, 1917	One Month Ago
No. 1 railroad wrought	$27.50@28.00	$24.00@25.00
Stove plate	12.50@13.00	12.00@12.50
No. 1 machinery cast	18.25@18.75	15.25@16.25
Machine shop turnings	9.50@10.00	9.25@ 9.75
Cast borings	10.00@10.50	9.25@ 9.75
Railroad malleable cast	18.50@19.00	17.25@17.75

	St. Louis	
	Mar. 29, 1917	One Month Ago
Heavy melting steel scrap	$26.50@27.00*	$22.00@22.50*
No. 1 railroad wrought	27.00@27.50†	24.00@24.50†
Stove plate	12.00@12.50†	11.50@12.00†
No. 1 machinery cast	17.00@17.50†	14.50@15.00†
Machine shop turnings	10.00@10.50†	9.25@ 9.75†
Cast borings	9.75@10.25†	8.50@ 9.00†
Railroad malleable cast	18.00@18.50†	15.75@16.25†

*Gross ton. †Per net ton.

Steel Sheet Piling—The following price is base per 100 lb. f.o.b. Pittsburgh, with a comparison of a month and a year ago:

Mar. 29, 1917	One Month Ago	One Year Ago
$3.35	$3.50	$2.50

Cast-Iron Pipe—The following are prices per net ton for carload lots:

	New York							
	Mar. 29, 1917	1 Mo. Ago	One Year Ago	Birmingham	Chicago	St. Louis	San Francisco	Dallas
4 in.	$50.75	$41.50	$34.00	$43.00	$51.15	$47.00	$59.00	$55.00
6 in. and over	47.50	41.50	29.50	40.00	48.15	44.00	56.00	52.00

Gas pipe and 16-ft. lengths are $1 per ton extra.

Triangle Mesh Reinforcement—Price per 100 sq.ft in carload lots:

Plain 4-in. x 4-in. Mesh

Style Number	Sectional Area Square Inches per Foot Width	Pittsburgh	New York	Chicago	St. Louis	Dallas
032	0.032	$0.89	$0.92	$0.93	$0.94	$1.06
040	0.040	1.01	1.05	1.06	1.07	1.20
049	0.049	1.13	1.18	1.18	1.20	1.34
058	0.058	1.30	1.34	1.36	1.38	1.54
068	0.068	1.42	1.47	1.49	1.50	1.68
080	0.080	1.62	1.68	1.70	1.71	1.93
093	0.093	1.82	1.89	1.91	1.93	2.17
107	0.107	2.03	2.10	2.12	2.15	2.42
126	0.126	2.31	2.39	2.42	2.44	2.74
146	0.146	2.63	2.73	2.75	2.78	3.13
153	0.153	2.75	2.86	2.88	2.91	3.27
168	0.168	3.00	3.11	3.14	3.17	3.57
180	0.180	3.16	3.27	3.31	3.34	3.76
208	0.208	3.60	3.76	3.77	3.81	4.21
245	0.245	4.17	4.33	4.36	4.41	4.96
267	0.267	4.50	4.66	4.71	4.76	5.36
287	0.287	4.82	5.00	5.04	5.10	5.72
309	0.309	5.18	5.38	5.42	5.48	6.16
336	0.336	5.59	5.80	5.85	5.92	6.66
365	0.365	6.03	6.25	6.31	6.38	7.18
395	0.395	6.48	6.72	6.78	6.86	7.73

Plain 4-in. x 8-in. Mesh

036P	0.036	.69	.71	.72	.73	.82
044P	0.044	.81	.84	.85	.86	.96
053P	0.053	.97	1.01	1.02	1.03	1.16
062P	0.062	1.09	1.13	1.14	1.15	1.30
072P	0.072	1.26	1.30	1.32	1.33	1.50
084P	0.084	1.42	1.47	1.49	1.50	1.69
097P	0.097	1.62	1.68	1.70	1.71	1.93
041R	0.041	.85	.88	.89	.90	1.01
049R	0.049	.97	1.01	1.02	1.03	1.15
058R	0.058	1.13	1.18	1.18	1.20	1.35
067R	0.067	1.26	1.30	1.32	1.33	1.50
077R	0.077	1.42	1.47	1.49	1.50	1.69
089R	0.089	1.62	1.68	1.70	1.71	1.93
102R	0.102	1.78	1.85	1.86	1.88	2.12

Made in 16-, 20-, 24-, 28-, 32-, 36-, 40-, 44-, 48-, 52- and 56-in. width in rolls 150-, 200- and 300-ft. lengths.

Galvanized runs about 10% higher than plain.

CEMENT, BRICK AND STONE

Paving Stone

Boston	Granite 5-in	$2.45	sq.yd.
New York	Manhattan	2.50	sq.yd.
	Other boroughs	2.25	sq.yd.
Chicago	About 4x8x4 dressed	2.15	sq.yd.
	About 4x8x4 common	1.75	sq.yd.
Cincinnati	Granite	75.00	per M
San Francisco	Basalt block 4x7x8	57.75	per M
New Orleans	Stand Granite 3½-in.	60.00	per M
Kansas City, Mo.	Limestone	2.00	sq.yd.

Curbing—Prices per linear foot are as follows:

New York	5x16	$0.40
	5x20	.45
Chicago	6x18	.45
St. Louis	5x16 square edge	.75
St. Louis	5x16 bull nose	.80
San Francisco	5x16	.75
	5x20	.85

Flagging—

New York	Bronx		$0.12 sq.ft.
	Manhattan		.17 sq.ft.
	Queens	5 ft. square	.18 sq.ft.
Chicago	18 in. wide		.60 lin.ft.

Brick—The price per 1,000 in cargo or carload lots is as follows:

	Common	Paving Brick
New York	$9.50	$25.00
Chicago	6.00	16.00
St. Louis	7.00	10.00
Dallas	8.10	....
San Francisco	10.00	....
Seattle	7.00	....
New Orleans	7.50	....
Phœnix	10.00	....
Kansas City	9.50	....
Los Angeles	5.75	....
Boston	12.50	....
Cincinnati	9.00	....
Denver	7.50	....

Sand and Gravel—Price for cargo or carload lots is as follows, per cu.yd.:

	Gravel				Sand	
	Paving	1½ In. Mar. 29, 1917	1½ In. One Year Ago	¾ In. Mar. 29, 1917	¾ In. One Year Ago	Mar. 29, 1917	One Year Ago
New York	....	$1.20	$0.80	$1.25	$0.80	$0.50	$0.40
Chicago	$1.40	1.40	.90	1.40	.90	1.10	.90
St. Louis	....	.85	.70	.85	.70	.91	.60
Dallas	....	1.00	....	....	....	1.25	....
San Francisco	2.00	1.00	.90	1.00	.90	1.00	.80
Seattle	....	.75	....	.75	....	.75	....
New Orleans	....	1.50	....	1.50	....	1.04	....
Phœnix	....	1.50	....	2.00	....	1.00	....
Kansas City	....	2.00	....	2.25	....	.60	....
Los Angeles	....	.85	....	.85	....	.35	....
Boston	....	1.30	....	1.40	....	.80	....
Cincinnati (per ton)		.80	....	.75	....	.75	....
Denver	....	1.25	....	1.25	....	.75	....

Fine White Sand—St. Louis:

Pacific .....$4.50 ton Ottawa ..... $5.00 ton

Crushed Stone—Price for cargo or carload lots is as follows, per cu.yd.:

	1½ In. Mar. 29, 1917	1½ In. One Year Ago	¾ In. Mar. 29, 1917	¾ In. One Year Ago
New York	$1.10	$0.85	$1.20@1.30	$0.95
Chicago	1.40	.90	1.40	.90
St. Louis	1.25	1.00	1.25	1.00
Dallas	1.36	....	1.49	....
San Francisco	1.00	1.25	1.00	1.25
Seattle	1.50	....	1.50	....
New Orleans	2.50	....	4.00	....
Phœnix	1.75	....	1.75	....
Kansas City	1.25	....	1.35	....
Los Angeles	.95	....	1.00	....
Boston (per ton)	1.25	....	1.25	....
Cincinnati	.95	....	.95	....
Denver	1.75	....	1.75	....

Portland Cement—These prices are for barrels in carload lots including bags:

	Mar. 29, 1917	One Month Ago	One Year Ago
New York	$2.12	$1.97	$1.82
Jersey City	2.00	1.85	1.76
Boston	2.20	2.17	1.92
Chicago	2.16	2.06	1.41
Pittsburg	2.16	2.06	1.71
Cleveland	2.29	2.19	1.71
Detroit	2.25	2.15	1.80
Cincinnati	2.19	....	....
Indianapolis	2.29	2.19	1.54
Toledo	2.29	2.19	1.54
Milwaukee	2.28	2.18	1.53
Minneapolis	2.43	2.33	1.68
Duluth	2.41	2.31	1.66
Peoria	2.28	2.18	1.65
Cedar Rapids	2.39	2.29	1.66
Davenport	2.34	2.24	1.66
St. Louis	2.20	1.95	1.75
San Francisco	2.60	2.60	1.75
Seattle	2.50	....	....
Phœnix	3.25	....	....
Kansas City	2.24	....	....
Los Angeles	2.30	....	....
Denver	2.89	....	....
New Orleans	2.36	....	....
Houston	2.05	....	....

Rosendale Cement—Price to dealers for 500 bbl. or over, f.o.b. ... ing bags:

New York 1.10

30c. allowed for bags.

Lime—The following prices per ton prevail at warehouse in cities named:

	Hydrated	Common
New York, on job	$16.50	$14.25
St. Louis	11.25	10.00
Chicago, warehouse	15.00	12.00
Dallas, warehouse	18.50	13.50

MISCELLANEOUS

Railway Ties—For fair-size orders, the following prices per tie hold:

	Material	7 In. by 8 ft.	9 In. 6 In. by 8 ft.	8 In. by 8 Ft.
New York	Yellow Pine	$1.15@1.20	$1.06@1.11	
St. Louis	White Oak	.72	.61	
Chicago		.97	.82	
San Francisco	Douglas Fir Green	.83	.55	
San Francisco	Creosoted	1.43	.98	

Sewer Pipe—The following prices are in cents per foot for carload lots:

Size, In.	New York Mar. 29, 1917	New York One Year Ago	St. Louis	Chicago	San Francisco	Dallas
3	.087	.06	....	.075	.06	.088
4	.087	.06	....	.075	.08	.088
5	.1305	.096	....	.12	.10	.1332
6	.1305	.096	.11	.12	.12	.1332
8	.203	.132	.15	.175	.18	.1975
10	.3045	.192	.21	.2625	.27	.2765
12	.3915	.24	.30	.3375	.3375	.3555
15	.522	.324	.45	.45	....	....
18	.725	.456	.68	.625	.675	.5135
20	.87	.54	.80	.75	.875	.79
22	1.16	.72	1.03	1.00	1.05	1.027
24	1.305	.78	1.15	1.125	1.25	1.185
27	1.95	1.44	1.30	....	....	....
30	2.16	1.76	1.70	....	....	....
33	2.88	2.31	2.25	....	....	....
36	3.28	2.59	2.50	....	....	....

Size, In.	Seattle	Phoenix	New Orleans	Kansas City	Cincinnati	Denver	Los Angeles	Boston
3	.075	.075	.045	.08	.075	.075	.055	.09
5	...	.125	.056	.11	.113	.10	.09	.135
8	.225	.225	.07	.15	.175	.225	.16	.21
12	.413	.375	.126	.27	.338	.375	.265	.405
24	1.75	1.25	.943	1.15	1.35	1.25	1.00	1.35
36	...	3.00	...	2.40	3.49	2.50	...	3.383

Clay Drain Tile—The following prices are per 1,000 lin ft.:

Size, In.	New York Mar. 29, 1917	New York One Year Ago	St. Louis	Chicago	San Francisco	Dallas
3	$24.90	$22.50	$18 40	$15.00	$24.50	$20.20
4	33.85	32.50	20.70	18.00	31.50	27.80
5	47.00	47.50	28.75	23.00	45.50	36 60
6	59.00	57.50	40.25	27.00	63.00	46.70
8	100.10	97.50	74.75	55.00	105.00	83.30

Hollow Tile—Hollow building tile price per block in cents:

	New York	Chicago	St. Louis	Kansas City	San Francisco	Los Angeles
4x12x12	.095	.0685	.054	.0489	.07	.04
6x12x12	.1295	.1027	.066	....	.095	....
8x12x12	.15725	.1186	.09	.0938	.12	.075
10x12x12	.185	.1369	.15	....	.18	....
12x12x12	.23125	.1779	.18	.131	.20	....

	Seattle	Phoenix	New Orleans	Cincinnati	Dallas	Boston
4x12x12	.055	.103	.06	.051	.07	.08
6x12x12	...	...	...	...	.09	...
8x12x12	.095	.18	.12	.096	.12	.13
10x12x12	...	...	...	...	.15	...
12x12x12	.15	...	.15	.13	.18	.185

Above prices are for carload lots or more.

Explosives—Price in cents per pound at cities named:

	Low-Freezing 20%	Gelatin Dynamite 40%	Gelatin Dynamite 60%	Gelatin Dynamite 80%
New York	..	21¾	27¾	....
Boston	17	19½	23½	32½
Cincinnati	15¾	20¼	22¼	33¼
Kansas City	16	24	27	33
Denver	13¾	18¾	24¾	31¼
Phœnix	....	25¾	....	....
New Orleans	16	18½	22½	....
Los Angeles	18	26½	32	....
San Francisco	12½	17¼	23¼	30¼
Seattle	11¼	17	23	30

Wood Block Paving—

New York—3½ in. block 16 lb. treatment	$2.00 sq.yd.
New York—4 in. block 16 lb. treatment	2.25 sq.yd.
Chicago—4 in. block 16 lb. treatment	1.75 sq.yd.
Chicago—City specifications	2.05 sq.yd.
St. Louis—3½ in. block 16 lb. treatment	1.60 sq.yd.
New Orleans—3½ in. block 16 lb. treatment	1.39 sq.yd.
New Orleans—4 in. block 16 lb. treatment	1.57 sq.yd.
Seattle—4 in. block 16 lb. treatment	1.35 sq.yd.
Boston—4 in. block 20 lb. treatment	1.92 sq.yd.
Cincinnati—4 in. block 16 lb. treatment	1.65 sq.yd.
Denver—4 in. block 12 lb. treatment	1.86 sq.yd.
Kansas City—4 in. block 16 lb treatment	1.70 sq.yd.

Road Oils—Following are prices in tank cars 8000 gal. minimum f.o.b. place named:

New York, 40-50% asphalt	6 7/10c. gal.
New York, 60-70% asphalt	6¼c. gal.
New York, dust layer, 30%	6½c. gal.
New York, binder	7½c. gal.
St. Louis, 60-80% asphalt	6½c. gal.
Chicago, 15-20% asphalt	6½c. gal.
Dallas, 40-50% asphalt	5c. gal.
Dallas, 60-70% asphalt	6c. gal.
San Francisco, 75-95% asphalt, 42-gal. bbl.	$1.83 bbl

Linseed Oil—These prices are per gallon:

	New York Mar. 29, 1917	New York Six Months Ago	Cleveland Mar. 29, 1917	Cleveland Six Months Ago	Chicago Mar. 29, 1917	Chicago Six Months Ago
Raw in barrels	$1 04	$0.73	$1.05	$0.75	$1.05	$0.74
5-gal. cans	1.14	.83	1.15	.85	1.15	.84

Boiled, 1c. per gal. additional.

White and Red Lead, in cents per pound, sell as follows:

	Red Dry Mar. 29, 1917	Red In Oil Mar. 29, 1917	Red Dry 6 Months Ago	Red In Oil 6 Months Ago	White Dry and In Oil Mar. 29, 1917	White Dry and In Oil 6 Months Ago
100-lb. keg	11.25	11.50	10.50	11.00	11.00	10.50
25- and 50-lb. kegs	11.50	11.75	10.75	11.25	11.25	10.70
12½-lb. keg	11.75	12.00	11.00	11.50	11.50	11.00
2- to 5-lb. cans	13.25	13.50	12.50	12.50	13.00	12.50

Asphaltum—Price per ton in packages and bulk in carload lots:

	Brand	Package	Bulk
New York	Mexican	$19.00	$14.00
Chicago	Mexican	22.00	18.00
St. Louis	Mexican	21.00	....
San Francisco	California	14.50	12.00
Dallas	Texaco and Mexican	19.00	....
Kansas City	Texaco	18.00	....
Kansas City	Mexican	....	15.50
Denver	California	24.00	....

Poles—The price on Western red cedar poles:

	New York	Chicago	St. Louis	Denver
6 in. by 30 ft.	$5.24	$4.59	$4.59	$3.97
7 in. by 30 ft.	6.90	6.10	6.10	5.30
7 in by 35 ft.	9.70	8 60	8.60	7.55
8 in by 35 ft.	11.20	9.90	9.90	8.65
7 in. by 46 ft.	11.35	10.00	10 00	8.75
8 in. by 40 ft.	12.75	11.15	11.15	9.65
8 in. by 45 ft.	15 70	13.70	13.70	11.80
8 in. by 50 ft.	18.35	15.95	15.95	13.65

Lumber Price per M in carload lots:

Square Edge and Sound Green Timbers 5 x 5

	Southern Pine New York 20 Ft. and Under	Southern Pine New York 22-24 Ft.	Chicago 20 Ft. and Under	Chicago 22-24 Ft.	Yellow Pine St. Louis 20 Ft. and Under	Yellow Pine St. Louis 22-24 Ft.
3x4 to 8x8	$28 75	$29.75	$26.75	$27.75	$21.00	$22.00
3x10 to 10x10	29.75	30.75	27.75	28.75	22 00	23.00
3x12 to 12x12	32.75	33.75	30.75	31.75	23.50	24 50
3x14 to 14x14	34.75	35.75	32.75	33.75	25.00	26.00
3x16 to 16x16	37.75	38.75	35.75	36.75	27.00	28.00
3x18 to 18x18	41.75	42.75	39.75	40.75	29.00	30.00
4x20 to 20x20	46.75	47.75	44.75	45.75	33.00	34.00

Over 32 ft. Add $1 for each additional 2 ft. in length up to 40 ft. for sizes 12x12 and under; for sizes over 12x12 add $2. For merchantable add $2 to sizes 10x10 and under. For prime add $2 to the price of merchantable for all sizes.

Yellow Pine—Dallas. Price per M:

	No. 1 Common		No. 1 Common
2x4—12, 14 or 16 ft.	$26.00	2x10—12, 14 or 16 ft.	$26.00
2x4—10, 18 or 20 ft.	29.00	2x10—10, 18 or 20 ft.	28.50
2x4—22 or 24 ft.	31.00	2x10—22 or 24 ft.	31.00
2x6—10 to 20 ft.	25.00	2x12—same as 2x4	
2x6—22 or 24 ft.	27 00	4x4, 4x6, 6x6	29.50
2x8—12, 14 or 16 ft.	26.00	3x8, 6x8, 8x8	30.50
2x8—10, 18 or 20 ft.	28.00	3x10, 8x10, 10x10	31.00
2x8—22 or 24 ft.	29.00	3x12, 12x12	33.50

Rough Douglas Fir, No 1 Common—More than carload lots in San Francisco:

Size in Inches	15 Ft and Under	16 to 24 Ft.	25 to 32 Ft
3 and 4x4	$16.00	$17.50	$19.00
3 and 4x6 and 8	16.00	16 50	17.50
6x6 to 8x8	16.50	17.50	17.50
3 and 4x10	16 00	17.50	18.50
6 and 8x10	17.00	18.00	18 00
10x10	17.00	17.00	19.00
3 and 4x12	16.00	17.50	18.50
6 and 8x12	17 50	18.50	18 50
10 and 12x12	17.00	17.00	19 00
3 and 4x14	17.00	19.00	20.00
6 and 8x14	18.50	19.50	19.50
7 and 9x14	19.50	20 50	20.50
10 and 12x14	18.00	18.00	20.00

	1-In. Rough, 10 In. x 16 Ft. and Under Y.P.	Fir	Hemlock	2-In. T. and G., Dressed and Matched (10 In. x 16 Ft.) Y.P.	Fir
Boston*	$60.00	$46.00	....	$32 00	$38.50
Cincinnati	33.00	....	....	29.75	....
Kansas City	38.00	39.50	38.50	29.00	....
Phœnix	....	....	....	....	38.00
Denver	....	21.00	21.00	....	22.00
Sattle	16.50	16.50	16.50	16.50	16.50
Los Angeles	....	22.00	....	....	....
Houston	22.50	....	....	23.50	....
New Orleans†	28 00	c30.00	....	30.00	c40.00

	8 x 8-In. x 20 Ft. and Under Y.P.	Fir	Hemlock	Spruce	12 x 12-In., 20 Ft. and Under Y.P.	Fir
Boston*	$36 00	$40.00	....	$36 00	$42.00	$41.50
Cincinnati	26 75	....	....	....	21.00	....
Kansas City	32.00	30.00	30.00	....	34.75	30.00
Phœnix	....	38.00	....	....	....	....
Denver	....	25 00	....	....	....	25.00
Seattle	16.50	16.50	16.50	16.50	16.50	16.50
Los Angeles	....	23.00	....	....	....	....
Houston	22.50	....	....	....	25.00	....
New Orleans†	32.00	c38.00	....	....	32 00	38.00

*Advance in prices attributed to car shortage and Government orders in Northwest. †Price under "Fir" column is for cypress.

MISCELLANEOUS METALS

Old Metals—The following are the dealers' purchasing prices in cents per pound:

	New York Mar. 29, 1917	New York One Year Ago	Cleveland
Copper, heavy and crucible	29.00	23.00	28.00
Copper, heavy and wire	28.50	22 00	27.00
Copper, light and bottoms	24.75	19.00	25.00
Lead, heavy	8.00	6.00	8.75
Lead, tea	7.50	5.50	6.25
Brass, heavy	17.75	14.00	19 00
Brass, light	13.75	12.00	14.50
No. 1 yellow rod brass turnings	19.00	14.00	17.50
Zinc	8.00	13 00	8.25

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

RAILWAYS—STEAM AND ELECTRIC

Proposed Work

New Jersey—Pennsylvania R.R. making surveys double tracking line from Merchantville, to Pemberton. A. C. Shand, Broad St. Station, Phila., Ch. Engr.

Pennsylvania—Altoona & Logan Valley Electric Ry., controlled by American Railways, 1321 Walnut St., Phila., plans to extend line 1½ mi. during summer. S. S. Crane, First National Bank Bldg., Altoona, Gen. Mgr.

Pennsylvania—Johnstown Traction Co. applied to Johnson City Council for franchise to build 2 lines, 1 in 7th Ward and 1 in 17th Ward in exchange for which company will give city 50 acres land for park improvements. E. M. Du Pont, Central Ave., Johnstown, Pres. and Pur. Agt.

Pennsylvania—Montgomery Transit Co. applied for franchise to construct trolley line between Pennsburg, East Greenville and Red Hill. Line will run from East Greenville to Lederach, where it will connect with Norristown-Harleysville Line, thence through Salfordville, Woxall, Sumneytown, Green Lane and Hoppenville. I. B. Kline, 11 East Airy St., Norristown, Supt. and Pur. Agt.

Pennsylvania—Pennsylvania R.R. plans to build cut-off from point above Natrona to Glassmere, along Allegheny River, double-track about 5 mi. A. C. Shand, Broad St. Station, Phila., Ch. Engr.

Pennsylvania—Wm. S. Buckland, Allentown, plans rebuilding Quakertown & Delaware Valley RR., formerly Quakertown & Eastern R.R., operating line from Quakertown to Riegelsville, about 14 mi., in northern section Bucks County. Plans include bridge across Delaware River at Riegelsville.

Pennsylvania—Reading Transit and Light Co., Reading will reballast line from Womelsdorf to Wyomissing, with tracklaying and other improvements. Company will spend about $150,000. S. E. Smith, 12 South 5th St., Reading, Supt. Rys.

Maryland—Baltimore & Ohio R.R. plans branch line from Baltimore to Sparrows Point, about 8 mi. R. N. Begien, Baltimore, Ch. Engr.

West Virginia—H. L. Van Sickler and W. S. Coursey, Lewisburg, purchased Lewisburg & Ronceverte Railway Co. and will improve same.

West Virginia—Atlantic & Northwestern Ry., recently incorporated with $5,000,000 capital stock, plans line from Harpers Ferry to Newport News, Va., about 200 mi.; line in time may be extended to Morgantown, about 150 mi. B. F. Mays, 3459 Holmead Pl., Wash., D. C., Secy. and Treas.

West Virginia—Coal and Coke Ry. plans line from Adrian to Buckhannon, 3-mi. and other improvements. About $3,000,000. I. K. Dye, Elkins, Gen. Mgr.

North Carolina—E. W. Eubanks and R. C. Clarke, Hendersonville, and associates, interested in project to build 16-mi. railway from Hendersonville, N. C. to Riverview, S. C., (Cleveland post office), to connect with Greenville & Western Ry.

North Carolina—C. L. Payne, Asheville, interested in project to build 40-mi. railway to connect Asheville with Carolina, Clinchfield & Ohio Ry. at point near Kona.

North Carolina—(Official)—Southern Railway System soon lets contract new facilities in Selma, involving 6 yard tracks, each 100 cars capacity; 300-ton steel mechanical coal-handling plant, serving 1 engine track and main line; 2 cinder conveyors; engine storage, standing, and approach tracks; repair tracks for 34 cars with paint, carpenter, and blacksmiths' shops; water and compressed-air facilities; pens for watering and feeding stock in transit; new track scale, moving freight depot and relocation of main line, connecting and industrial tracks to accommodate situation of new yard. W. H. Wells, 1300 Pennsylvania Ave., Wash., D. C., Ch. Engr. Construct.

Georgia—Atlanta, Birmingham & Atlantic Ry. plans to spend $100,000 for improvements on property recently purchased at Waycross. B. L. Bugg, Atlanta, Gen. Mgr.

Georgia—Federal Construction Co. has resumed its plan of building line from Atlanta to Canton, for which franchise was secured 2 years ago but work suspended. Napier, Wright & Wood, Atlanta National Bank, Atlanta, Atty.

Georgia—Washington & Lincolnton R.R. making surveys extending line from Lovelace to Lincolnton, about 8 mi. M. Mason, Washington, Gen. Mgr.

Alabama—G. B. Tarrant, 1316 North 31st St., Birmingham, and associates, interested in project to build electric railway from Birmingham and Jasper, about 35 mi. G. H. Clarke, Engr.

Tennessee—J. H. Faucette, Mayor, Bristol, is interested in proposed construction of branch railway from point on Virginia & Southern Ry. (part of Southern Railway System) between Bristol and Kingsport via Moccasin Gap. W. H. Wells, 1300 Pennsylvania Ave., Wash., D. C., Ch. Engr. Constr.

Tennessee—Illinois Central R.R. and Yazoo & Mississippi Valley R.R. plan to spend $10,000,000 during summer to repair main lines in Tennessee and other Southern States. A. S. Baldwin, 135 East 11th Pl., Chicago, Ch. Engr., former company and M. B. Morgan, Memphis, Dist. Engr. of latter.

Ohio—Cincinnati, Milford & Loveland Traction Co. plans extending line from Woodland Park to Hillsboro or Columbus during summer. J. Montgomery, Madisonville, Gen. Supt.

Ohio—Cleveland, Cincinnati, Chicago & St. Louis Ry. plans double tracking roadway from Marion to Bellefontaine. C. A. Paquette, Cincinnati, Ch. Engr.

Ohio—Cleveland Ry., Leader-News Bldg., Cleveland, applied to City Council permission to make improvements, including track renewals, etc. About $4,500,000. G. L. Radcliffe, Leader-News Bldg., Cleveland, Gen. Mgr.

Indiana—Illinois Central R.R. plans to spend $200,000 on improvements in Sullivan during summer, including lowering of tracks under Chicago & Eastern Illinois R.R. tracks at crossings of roads, straightening tracks through city, and grading Patton Hill. A. S. Baldwin, 135 East 11th Pl., Chicago, Ch. Engr.

Indiana—W. J. Davis, Ch. Engr., Tipton-Frankfort Traction Co., reported interested in project to build railway from Fruitdale to Brownstown, via Nashville.

Indiana—Terre Haute, Indianapolis & Eastern Traction Co. (Terre Haute Div.) asked Bd. Pub. Wks., Indianapolis, for permission to lay additional track from Holmes Ave., northwest over company's right-of-way to Indianapolis Motor Speedway. T. F. Grover, 663 Wabash Ave., Terre Haute, Gen. Mgr., Terre Haute Div.

Michigan—Pennsylvania Lines West of Pittsburgh will receive bids within 60 days for line from Carlton to Detroit. T. Rodd, Pennsylvania Station, Pittsburgh, Ch. Engr.

Illinois—J. H. Shirley, 4139 Manhattan Ave., St. Louis, Mo., interested in plan to build electric railway from Chicago to St. Louis, through Decatur, Clinton, Farmer City, Bellflower, Saybrook and Anchor City. Company will be organized with $50,000 capital stock.

Illinois—Chicago & Alton R.R. plans double-tracking line through Pike County during summer. H. T. Douglas, Jr., Transportation Bldg., Chicago, Ch. Engr.

Iowa—Chicago & Northwestern Ry. making plans double-tracking line from Sioux City to Chicago, Ill. and Omaha, Neb. W. H. Finley, Jackson Blvd. and Franklin St., Chicago, Ch. Engr.

Minnesota—Great Northern Ry. purchased 10 acres land in Breckenridge and will build yards. A. H. Hogeland, St. Paul, Ch. Engr.

North Dakota—Dickinson & Northwestern Ry., recently incorporated, will build 40-mi. railway from Dickinson, Stark County, to Gorham, Billings County, through farming communities. General offices, shops, etc., will be built in Dickinson. L. A. Thorsen and J. Evoniuk, Gorham, interested.

Texas—H. L. Moseley, Atty., Weatherford, interested in project to build steam railway from Gainesville to Weatherford, about 100 mi.

Texas—R. S. Sterling, Houston, granted charter to build steam line from Goose Creek oil fields to Dayton, about 22 mi., to connect with Trinity Valley & Northern R.R.

Texas—Oklahoma & Texas Southern Ry. soon lets contract line from Wichita Falls southward. J. Phillips, P. O. Box 671, Wichita Falls, Secy.

Texas—Texas Airline Interurban Ry., recently incorporated with $250,000 capital stock, plans to build and operate interurban railway, through state including line between Paris and Palaclos, 385 mi.; within and between Beaumont and Corpus Christi, 475 mi.; within and between Eagle Lake and Austin, 90 mi.; within and between Navasota and Victoria, 165 mi.; through and between Houston and San Antonio, 200 mi. J. D. Hunt, Caldwell, H. H. Hunt, Columbus, W. T. Tait, Columbus, and W. W. Hunt, Waco, incorporators.

Oklahoma—Panhandle & Western R.R. incorporated with $300,000 capital stock, plans line from Hooker to Kenton, about 65 mi. V. V. Grant, and S. W. Walker, Miami, and C. Witt, Oklahoma, incorporators.

Nevada—Bullfrog Goldfield R.R., Tonopah, recently incorporated with $1,500,000 capital stock, plans railway from Goldfield to Bull Frog (Rhyolite post office) about 75 mi. F. A. Keith, W. L. Garden and A. C. Briggs, all of Tonopah and J. W. Brock, Bullitt Bldg., Phila., incorporators.

Washington—Oregon-Washington R.R. and Navigation Co. made surveys branch line from Starbuck to Pendleton, Ore., to lessen grade, involving 240,000 yds. to make fill. S. Murray, Wells Fargo Bldg., Portland, Ch. Engr.

Oregon—Hill Railway System making plans railway from Bend to Trinidad, Calif., to connect with Northwestern Pacific R.R. of which line J. W. Williams, Phelan Bldg., San Francisco, is Ch. Engr. Constr.

California—Pacific Electric Ry. granted permission by State Railroad Comn. to lay spur track across Covina Blvd., Railroad Ave., Clark and Los Angeles St., near Vineland. (Baldwin Park post office). J. McMillan, Pacific Electric Bldg., Los Angeles, Gen. Mgr.

Ontario—Essex Terminal Ry. making surveys electric line from Essex to Amherstburg. W. Woollatt, Walkerville, Vice-Pres. and Gen. Mgr.

Prices and Contracts Awarded

Florida—Export Ry. let contract 9-mi. railway from phosphate mines to Hillsborough Bay, 6 mi. south of Tampa and 6-mi. spur to South Tampa to H. L. PIERCE, Tampa.

Alabama—Southern Railway System let contract 2 sections double tracking, 1 from Burnstall (Bessemer post office) to Tannehill (Green Pond post office) 11 mi.; and 1 from Tuscumbia and Russell, Miss., 4 mi. on Alabama-Great Southern Ry. (branch of Southern Railway System) to R. RUSSELL, Charlotte, N. C.

Indiana—Evansville & Indianapolis R.R. Evansvills, let contract realignment work from Terre Haute to Evansville, about 150 mi., to W. E. CALLAHAN CONSTRUCTION CO., Omaha.

Montana—Northern Pacific Ry. let contract 33-mi. single-track from Bozeman to Logan to M. WOLDSON, Spokane, Wash.

Missouri—Chicago, Burlington & Quincy R.R. let contract extending line from Mexico to Kansas City, 100 mi., to McARTHUR BROS CO., 208 South La Salle St., Chicago.

Oklahoma—Oklahoma Union Traction Co., Tulsa, let contract electric interurban line between Tulsa and Sapulpa by way of West Tulsa and Red Fork to INTERURBAN CONSTRUCTION CO., Tulsa.

Oklahoma—Sand Springs R.R. soon lets contract grading, bridging and concrete work on extension between Sand Springs and Hominy, thence to point on proposed extension of Atchison, Topeka & Santa Fe R.R., about 41 mi. Track laying and other preparatory work to be done by company's forces. H. T. Morrison, 35 North Main St., Tulsa, Supt.

Arizona—Atchison, Topeka & Santa Fe R.R. let contract grading 3¾ mi. from Clarksdale to Cottonwood on Verde Valley branch to FLEMING & STITZER, Jerome; trestle, culverts and concrete work to GILMORE, SCHWITTERS & CHESNEY, Jerome, $150,000.

BRIDGES

Proposed Work

W. Va., Fairmount—(Official)—City retained Concrete-Steel Engineering Co., Park Row Bldg., New York, to make plans 2 concrete steel arch bridges over Coal Run connecting Adams St. and Fairmont Ave. and over Monongahela River on Washington St.

Fla., Tampa—See item under "Streets and Roads."

Kan., Larned—Pawnee County plans to replace O'Rourke Bridge, River Township. About $25,000. Address County Clk., Larned.

Tex., Kerrville—See item under "Streets and Roads."

Ont., Petersboro—City soon receives bids high level bridge. About $200,000. S. B. Armstrong, Clk.

Bids Desired

Pa., Reading—(Official)—Berks County receiving bids Apr. 26 rein.con. bridge over Schuylkill River, Cumru Township. Bids are requested on 2 propositions, 1st—3 90-ft. spans girder viaduct approaches at each end, 2nd—1 300-ft. arch rib span, suspend floor system and girder viaduct approaches at each end. C. J. Rhode, Reading, County Controller. Advertised in this issue.

Va., Shawsville—Montgomery County Comrs. receiving bids Apr. 17, steel bridge 88-ft. long over South Fork of Roanoke River, 6½-mi. from Shawsville. Address County Clk., Christiansburg.

N. C., Gastonia—Gaston and Mecklenburg Counties receiving bids Apr. 20, rebuilding bridges over Catawba River at Sloans, Mt. Holly and Rozzells Ferries, concrete or steel. Address County Clk., Charlotte.

Ga., Peyton—C. M. Holland, Pur. Agt., Fulton County receiving bids Apr. 14 rein.-con. bridge over tracks Southern Ry.

Ind., Muncie—Delaware County receiving bids Apr. 14, 2 bridges. Address County Clk., Muncie.

Mich., Ishpeming—Bd. Comrs. Marquette County receiving bids Apr. 28, 7 I-beam and concrete bridges, spans 17 to 26-ft., concrete, 57 to 120-cu.yd., resurfacing 3.5-mi. 14-ft. trap rock water bound macadam road. Alternate bids received for crushing and furnishing stone on this job; building 0.86-mi. water-bound trap rock macadam road and grading and gravel dressing 2.77-mi. road. About 15,000-yd. earth, 1000-yd. loose rock, 200-yd. solid rock and 3800-yd. gravel. K. I. Sawyer, Supt.

Ia., Tipton—Bd. Supervs. Cedar County receiving bids Apr. 10, 44 rein.-con. box culverts and 3 I-beam bridges with concrete floor and abutments. A. C. Yetter, Tipton, County Audr.

Minn., Austin—(Official)—Mower County receiving bids Apr. 20, 101 bridges. A. C. White, Austin, County Engr.

Neb., Auburn—Nemaha County receiving bids Apr. 19 steel and concrete bridges. Address County Clk., Auburn.

Idaho, Hailey—G. McLeod, Blaine County Recdr., receiving bids Apr. 9, 108-ft. steel highway bridge over Big Wood River.

Calif., Riverside—Riverside County receiving bids Apr. 11, bridge over Snow Creek. A. F. Pilch, Riverside, County Clk.

Bridges (Continued)

Calif., Visalia—Bd. Supervs. Tulare County receiving bids Apr. 15, 16 concrete and steel bridges between Tipton and Octol. Address County Clk., Visalia.

Prices and Contracts Awarded

Fla., Tampa—Hillsborough County received low bids bridges over (a) Little Manatee River, (b) Alafia River, from Cornwall Construction Co., (a) $11,825, (b) $12,590; Edwards Construction Co., Tampa (a) $14,087, (b) $14,322; Austin Bros. Co., Atlanta, (a) $11,925, (b) $12,700.

Ia., Denison—Crawford County let contract steel and rein.-con. bridges and culverts to E. McNEAL, Beloit; WARD & WEIGHTON, Sioux City; ELKHART BRIDGE CO., Elkhart, Ind., D. H. KNIEF, Denison, and T. A. HICKS, Manilla.

Neb., Kearny—(Official)—Buffalo County let contract bridges and repair work to be done during year to OMAHA STRUCTURAL STEEL WORKS, Omaha.

Wash., Olympia—Pierce and Thurston Counties let contract McKenne Bridge to C. HUBER, Central Bldg., Seattle, $27,987.

WATER-WORKS

Proposed Work

Ct., Putnam—City making plans extending and improving water system. A. Hawkins, G. H. Gilpatric, H. J. Smith, Bd. Water Comrs. Hanscom Construction Co., 70 Kilby St., Boston, Engr.

N. Y., Auburn—City making plans filtration plant. About $200,000. J. S. Hanlon, City Clk. Hagen, Whipple & Fuller, 30 East 42nd St., New York, Engr.

N. J., Butler—Standard Oil Co., 26 Broadway, New York, plans 7-mi. pipe line detour around Newark watershed.

N. Y., Schuylerville—City making plans extending water system. About $15,000. W. Greewalch, 14 Mining Blvd., Albany, Engr.

N. J., Garfield—City plans air lift system of obtaining water. About $18,000.

N. J., Mendham—Borough receiving bids May 1 extending water system. Plans include 14,000 ft. 6-in. pipe and 8,000,000-gal. reservoir. About $30,000. F. V. Pitney, Morristown, Engr.

Pa., Ellwood City—Ellwood City Water Co., plans reservoir. J. R. Burt, Supt.

Pa., Titusville—City plans water pump, 5,000,000-gal. capacity. J. J. Sharpe, Supt.

Md., Mt. Rainier—City soon receives bids extending water system to include 10-mi. water mains, valves and hydrants. About $50,000. H. Stevens, Union Trust Bldg., Wash., D. C., Arch. $50,000.

Va., Farmville—City election Apr. 24 to vote on $50,000 bonds to improve water and light plants, also to improve streets.

Va., Harrisburg—City plans improving water system, including pumping station at Laymans Springs, also sludge beds at filtration plant. About $20,000 and $18,000 respectively.

N. C., Beaufort—See item under "Streets and Roads."

Ga., Swainsboro—City election Apr. 24 to vote on $50,000 bonds to build water and sewer systems. J. B. McCrary Co., Atlanta, Engr.

Ga., Thomasville—City election Apr. 27 to vote on $160,000 bonds to extend water mains and improve water and light plants.

La., Marksville—City retained E. M. Kursheedt, Engr., Marksville, to make plans water system. City will also vote on bond issue.

La., Rayne—City receiving bids Apr. 23 improving water and light plant. E. J. Bertrand, Supt. H. Raymond, Interstate Bank Bldg., New Orleans, Consult Engr.

La., Shreveport—City plans extending water system to Henderson Cotton Oil Co.'s plant. W. R. Goss, Supt.

Tenn., Bristol—City plans $50,000 bond issue to extend and improve water system.

Tenn., Trezevant—City plans to vote on $12,500 bonds to extend and improve water system.

Ohio, Akron—C. F. Beck, Dir. Pub. Ser., receiving bids Apr. 18 furnishing and installing turbo-centrifugal pumps, 1 high- and 1 low-lift units.

Ohio, Greenwich—F. H. Daniels, Clk., Bd. Trustees Pub. Affairs Huron County, receiving bids Apr. 10 extending and improving water system to include additions to pumping station, 10-in. suction main, intake crib, concrete spillway and excavation in present reservoir, etc.

Ohio, Maple Heights—(Bedford post office)—Town election May 26 to vote on $15,000 bonds to build water system.

Ohio, Marietta—City plans to issue $75,000 bonds for rein.-con. reservoir, 4,000,000-gal. capacity. W. M. Morse, Supt.

Ohio, Tiffin—City plans extending and improving water system.

Ind., Whiting—City plans filter plant at 119th and Front St. About $150,000. A. Exton, City Engr.

Mich., Dearborn—Village making plans extending water mains. About $12,000. F. Reamer, Clk. G. Dingeman, County Bldg., Detroit, Engr.

Mich., Dundee—City soon receives bids 200,000-gal. reservoir and 50,000-gal. steel tank and tower. About $35,000. W. H. Terrill, City Clk. G. Champe, 609 Nasby Bldg., Toledo, Engr.

Mich., Globeville—City voted $10,000 bonds for water system.

Mich., Hamtramck—Village voted $75,000 bonds for water system.

Ill., Chicago—Union Petroleum Co. plans pump house at 4345 South Western Ave. About $10,000.

Ill., Chicago—Armour & Co., Inc., Union Stock Yards, plans pump house. About $45,000.

Ill., Jacksonville—City received report from Jacksonville Engineering Co. estimating cost impounding reservoir at $68,989.

Wis., Madison—Council voted to install water-softening plant. About $150,000 to $175,000. E. E. Parker, Supt.

Ia., Audubon—City election Apr. 9 to vote on $20,000 bonds issue to extend and improve water system.

Ia., West Point—City sold $15,000 bonds to install water system.

Minn., Stillwater—City voted $50,000 bonds extending water mains. C. A. Lammers, City Clk.

Wyo., Casper—City plans election to vote on $75,000 bonds to extend water mains.

Mont., Fairview—City plans water and sewer systems. Empire Construction Co., Minot, N. D., Engr.

Ark., Marvell—City plans water-works system. About $16,000.

Tex., Corsicana—City plans election to vote on $50,000 bonds for water system. C. B. Lewis, Supt.

Tex., Houston—City voted $75,000 bonds for water system and $25,000 to pave streets.

Okla., Blair—City plans to vote on $20,000 bonds to improve water system.

Okla., Coyle—City voted $13,000 bonds for water system.

Okla., Frederick—City voted $35,000 bonds to extend water system; plans include 500,000-gal. reservoir and 8-mi. pipe line.

Okla., Jenks—City voted $13,000 bonds to build water system.

Okla., Okmulgee—Bd. Comrs. retained Benham Engineering Co., Oklahoma City, to make plans water and sewer extensions, to include water-purification plant, raising present dam and building secondary reservoir, new supply line, rebuilding pumping station and extending water mains; also plans to vote on $300,000 bond issue for work.

Okla., Red Rock—City plans water system. About $22,000.

Okla., Vian—City election soon to vote on $10,000 bonds to extend water system.

Okla., Wibberton—City retained Mackintosh-Walton Engineering Co., Oklahoma City, to make plans water-works system. About $55,000.

Colo., Grand Junction—City plans auxiliary pumping plant. H. T. Verbeck, Comr.

Idaho, Bonners Ferry—City plans to vote on $85,000 bonds to install water system.

Utah, Salt Lake City—City receiving bids Apr. 17 building water mains during year. C. F. Barrett, Supt.

Nev., Reno—City making plans additions to water-works system, including new pump unit. G. A. Campbell, Mgr.

Calif., Berkeley—(Official)—City does not plan $2,000,000 bond issue for water system. A. G. Briggs, City Engr.

Calif., Los Angeles—Ocean Park Water Co. to extend its plant. About $50,000.

Que., Montreal South—M. M. Condon, Town Clk., receiving bids in April for water system. About $180,000.

Ont., New Toronto—City making plans extending water system. About $40,000. J. Louden & Hertzberg, Excelsior Life Bldg., Toronto, Engr.

Ont., St. Catharines—(Official)—We have been advised that the Dominion Government has suspended all work on Welland Ship Canal and proposed conduit to serve city of St. Catharines and towns and villages of district with water from Lake Erie indefinitely.

Alta., Redcliffe—City plans to install pumps, 1,500,000-gal. per day capacity, boilers, etc. J. F. Askwith, Engr.

Bids Desired

N. Y., Auburn—(Official)—Bd. Water Comrs. receiving bids Apr. 27 slow sand water filter, 9,000,000-gal. capacity. Hazen, Whipple & Fuller, 30 East 42d St., New York, Consult. Engr. Advertised in this issue.

N. Y., New York—(Manhattan and Bronx)—Cast-Iron Pipe, etc.—W. Williams, Comr. Water Supply, Gas and Electricity, Room 2351 Municipal Bldg., receiving bids Apr. 9 furnishing, delivering, unloading, stacking and storing, c.i. pipe and double-nozzle fire hydrants.

N. Y., Sherburne—S. P. Kutschbach, Chn. Water Bd. receiving bids Apr. 15 concrete well, 1000-gal. steam pump including pumping station and force main of 600-ft. 8-in. piping. C. E. Perry, 36 State St., Albany, Consult. Engr.

Wis., Mauston—City receiving bids Apr. 14, concrete reservoir, 25-ft. diameter, 25-ft. deep, also laying sewer pipe, catch basins, manholes, etc.

N. Mex., Clovis—City receiving bids Apr. 18 improving water and light plants. Plans include 4 centrifugal pumps, 240-kv.a. generator, 500-hp heater, uniflow engine, cast-iron pipe, hydrants, valves, etc. G. W. Chalfand, Supt. Burns & McDonald, 400 Inter-State Bldg., Kansas City, Mo., Engr.

Prices and Contracts Awarded

N. J., Ogdensburg—Boro. rejected bids water system. About $60,000.

Ga., Madison—City let contract extending water and sewer systems to DYSARD CONSTRUCTION CO., Austell Bldg., Atlanta, $24,000.

Ill., Bloomington—City let contract water mains in Front and Lee St. to D. H. RIDER.

Ill., Effingham—Eastern Illinois Utilities Co. let contract filtration plant to A. C. LOOMIS CONSTRUCTION CO. About $14,000.

Ill., Wilmington—City let examining water mains, fire hydrants, etc. to EMBANKMENT CO., 309 Darcy Bldg., Joliet, $30,607.

Wis., East Troy—City let contract water system to J. P. CHAFIN, $10,000.

Ia., Council Bluffs—City let contract extending water mains to HAMMOND-BYRD IRON CO., Birmingham, Ala., $22,000.

N. D., Bowman—City let contract water system to HAGGART CONSTRUCTION CO., Fargo, $25,000.

N. D., Grand Forks—City let contract extending and improving filtration plant to PITTSBURGH FILTER MANUFACTURING CO., Farmers Bank Bldg., Pittsburgh, $14,707.

Tex., Temple—City will install concrete reservoir and settling basin at water-works by day labor. About $30,000. R. D. Morgan, Supt.

Okla., Kaw—City let contract water and light plant to T. GUDGEL, Stillwater, $25,000.

Calif., La Canada—La Canada Water Co. let contract rein.-con. reservoir to P. H. EHLERS, 5613 Harold Way, Los Angeles.

Calif., Santa Barbara—Water Comrs. let contract 1,250,000-gal. reservoir to SNOOK & HENYON, Santa Barbara.

Ont., Linday—City let contract stone and brick pump house addition to RESE WILLIAMS, $10,000.

SEWERS

Proposed Work

Ct., Stamford—Sanitation Comn. making plans for sewage-disposal plant.

N. Y., New Rochelle—City plans sewage disposal plant. About $15,000. J. A. Hadert, City Engr.

N. J., Passaic—City plans sewer in portion Van Houten Ave. C. R. Wise, City Engr.

N. J., Trenton—Colored Manual Training School asked legislature to appropriate $25,000 to install sewage-disposal system.

Pa., Erie—City plans storm water sewer in portion Myrtle St. About $62,798. F. G. Lynch, City Engr.

N. C., Thomasville—(Official)—City plans extending sewer system and pipe line. N. S. Mullican, City Mgr.

S. C., Easley—See item under "Streets and Roads."

Ga., Madison—See item under "Water-Works."

Ga., Swainsboro—See item under "Water-Works."

Ohio, McConnellsville—City passed resolution to install sanitary sewer in portion Kennebec Ave.

Ohio, Marion—City plans sanitary and storm water sewer in portions Boone and Neal Ave. H. H. Noyes, City Engr.

Ohio, Youngstown—City plans sewer in portion Pine Hollow Drive. F. M. Lillie, City Engr.

Ohio, Youngstown—City passed resolution to install sewer with laterals from Crab Creek at Valley to Bond St. F. M. Lillie, City Engr.

Ohio, Youngstown—City passed resolution to install sewers and pave Lucius Ave. F. M. Lillie, City Engr.

Ind., Gary—City plans sewer system in southern section of city. About $80,000. W. J. Fulton, City Engr.

Mich., Flint—City plans storm sewers in portions of 26 streets, 2 sanitary sewers and 3 intersecting sewers. E. C. Shoecroft, City Engr.

Mich., Grand Rapids—Bd. Pub. Wks. soon receives new bids South West sewer system. About $160,000. W. S. Moore, City Engr.

Mich., Ionia—City soon receives bids sanitary sewers in various streets, including 6000 lin.ft. 6- to 8-in. crock tile.

Mich., Pontiac—City making plans sewer in portion College St. W. J. Fisher, City Engr.

Ill., Batavia—City made plans and estimates cost sewer system on east side at $30,000.

Sewers (Continued)

Ill., Cairo—(Official)—City soon lets contract sewer and filling in 38th St. and filling and grading in 28th St. About $90,000 and $60,000, respectively. G. F. Dewey, City Engr.

Ia., Marshalltown—City council plans laying 18 blocks storm sewers in 3rd Ward. W. H. Steiner, City Engr.

Ia., Newton—City making plans 5 mi. of 8- to 15-in. vitrified sewer pipe and 2 sewage-disposal plants. M. G. Hall, Centerville, Engr.

Minn., Duluth—City plans sanitary sewer in portion Oxford St. L. Ayers, City Engr.

Minn., Minneapolis—City plans to install trunk line sewers and laterals to cost $487,000. F. W. Cappelin, City Engr.

Minn., St. Paul—City plans sewer in portion Bradley St. O. Clausson, City Engr.

Minn., Winona—City making plans storm sewer in portion Olmsted Ave. H. B. Walling, City Engr.

N. D., Glen Ullin—City retained Black & Griffin, Engr., Mandan, to make plans and estimates for sewage system.

Mont., Fairview—See item under "Water-Works."

Mo., St. Joseph—City plans election to vote on $550,000 bonds to install sewers and $200,000 bonds to rebuild electric-light plant. C. P. Huff, City Engr.

Okla., Okmulgee—See item under "Water-Works."

Calif., Fresno—B. E. Cronkite, City Engr., making plans extending sewer laterals in portion Sohm's Addition No. 2.

Calif., Upland—City retained Olmstead & Gillelan, Hollingsworth Bldg., to make plans sewer system, including 17,000-ft. outfall sewer and lateral sanitary sewer system to be constructed under provision of Vrooman Act. About $50,000.

Bids Desired

N. Y., New York—(Manhattan)—M. M. Marks, Boro. Pres., Room 2032, Municipal Bldg., receiving bids Apr. 9 receiving basins on Madison Ave. and 127th St. and 3 other points, also at Broadway and Vesey St. and 40 other points; alteration of receiving basins, with inlets on portion Ave. D, 19th St. and Broadway, with all work incidental thereto.

N. Y., Syracuse—(Official)—Syracuse Intercepting Sewer Bd., 104 City Hall, receiving bids Apr. 19, Contract No. 25, Divisions, 3, 4 and 5, Onondaga Creek improvement and main sewer. H. T. Hamlin, Secy. (See adv.)

Pa., Upper Darby—(Official)—W. Pendlebury, Secy. Comrs., Cardington, receiving bids Apr. 10, (1) Darby Creek Outfall Sewer, (2) Oakview Sewer Dist. (3) Southeastern Sewer Dist. A. F. Dawson, Jr., Post Office Bldg., Darby, Township Engr. J. T. Wolfenden, Chn. Sewer Com. (See adv.)

Va., Franklin—See item under "Streets and Roads."

Ohio, Barberton—(Official)—City receiving bids Apr. 24, 3 mi. sewer 12- to 36-in., 1 pumping station (centrifugals), and 2 ejector stations. T. J. Davis, Dir. Pub. Ser. R. Winthrop Pratt, Hippodrome Bldg., Cleveland, Engr.

Ind., Valparaiso—(Official)—City receiving bids Apr. 27, West End sewer system involving 20,500 lin.ft. 8-in. to 24-in. vitrified pipe sewers. About $28,200. C. L. Nelson, City Clk.

Minn., Ada—City receiving bids Apr. 20 sewage-treatment plant, including Imhoff septic tank, filtering beds and settling tanks. About $25,000. L. P. Wolff, 100 Germania Life Bldg., St. Paul, Engr.

S. D., Clear Lake—City receiving bids Apr. 9 4-mi. sewers and sewage-treatment plant. Dakota Engineering Co., Mitchell, Engr.

Calif., Los Angeles—Bd. Supervs. Los Angeles County receiving bids Apr. 16, sewage disposal plant, including Imhoff tank, 11 manholes, c.i. or vitrified pipe sewer lines, sump, etc. About $11,097, county furnishing cement, rock and sand. A. M. McPherrin, Los Angeles, County Clk.

N. S., Beaufort—See item under "Streets and Roads."

Prices and Contracts Awarded

Mass., Reading—Town received low bids Mar. 24, furnishing and laying sewer pipe Sect. 1, from Bruno & Pettitti, 18 Tremont St., Boston, $39,199, D'Onfro Bros. & Little, Leominster, $41,812. J. E. Palmer, Old South Bldg., Boston, $50,068; Sect. 2, Sousi & Williams, Boston, $30,213, Middlesex Construction Co., Medford, $37,383, F. Drinkwater, Roslindale, $42,923.

N. J., Newark—City received low bids Delavan Ave. sewer and branches from F. D. Leffingwell, 38 Spring St., Montclair, $33,383, C. Ippolito, 252 Main St., Orange, $39,350, Harrison, Craig & Co., 837 Broad St., $39,958.

Tenn., Nashville—City let contract brick sewer to J. P. LEWIS, 44 Arcade, $18,024.

Ohio, Coshocton—City let contract sewer in Orange St. to COSHOCTON CONSTRUCTION CO., $10,500.

Ohio, Dayton—City let contract sanitary sewers in Dist. No. 6, to C. S. SMITH & CO., 1401 North Main St., $57,526.

Ill., Madison—Village let contract sewer to R. E. HARDING, Racine, Wis., $169,215.

Ill., Oak Park—City let contract extending Sewer No. 499 to T. H. IGLEHART, 205 South La Salle St., Chicago, $21,836.

Ia., Denver—City let contract sanitary sewer system and disposal plant to COMSTOCK & HANSON, Cedar Rapids, $11,111.

Ia., Dubuque—City let contract storm sewer in Angella St. to T. R. LEE, Dubuque $2.50 per lin.ft.; Bee Branch Sewer to N. J. STANER, $16.90 per lin.ft.

Ia., Tama—City let contract 10,080-ft. sewer pipe to T. CAREY & SON, Clinton, $11,160.

Ia., Wilton—City let contract sanitary sewer system to D. G. FISCHER & CO., Davenport, $30,000.

Minn., West Minneapolis—(Minneapolis Post Office)—City let contract sewer system and disposal plant to W. DANFORTH, 563 Laurel Ave., St. Paul, $40,994.

Kan., Neodesha—(Official)—City let contract intercepting and sewage disposal plant to MERCER & UNDERWOOD, Springfield, $40,000.

Mo., Joplin—(Official)—City let contract sewers in 2 new districts to H. KOST and E. O. MOATS.

Okla., New Wilson—(Official)—City let contract sewer system to MACKINTOSH-WALTON CO. Noted Mar. 8.

Idaho, Rupert—City received low bids sewer system from R. M. Bardsen & Co., Pocatello, $48,713.

Calif., Los Angeles—City received low bid sewer in portion Topaz St. and other streets from L. Miletich, $16,900.

Calif., Seal Reach—City received low bid sewer system, including 35,880-ft. of 18-in., 1685-ft. of 10 in., 490-ft. of 14-in., 995-ft. of 16-in., 1120-ft. of 18-in. pipe, 78 manholes, 45 flush tanks, disposal tank, pumping plant from J. Sutalo, $33,-619.

STREETS AND ROADS

Proposed Work

Lynn, Mass.—City plans to spend $125,000 for paving work. W. L. Vennard, City Engr.

Pa., Harrisburg—Dauphin County Comrs. plan to issue $200,000 bonds for road work. Address County Clk., Harrisburg.

Va., Chase City—City plans to spend $18,000 improving streets.

Va., Farmville—See item under "Water Works."

Va., Gate City—Scott County, Powell Dist., election May 1, to vote on $45,000 bonds to build roads. Address County Clk., Gate City.

W. Va., Charleston—Kanawha County, Elk Dist., election Apr. 16 to vote on $335,000 bonds to build roads. Address County Clk., Charleston.

W. Va., Hamlin—Lincoln County election May 1 to vote on $675,000 bonds to build roads, plans include hard surfacing 3 main roads to Cabell, Boone, Logan and Kanawha County lines. Address County Clk., Lincoln.

N. C., Clinton—City plans 10,000 to 12,000-sq.yd. street paving.

N. C., Durham—Durham County, Williams Township, election Apr. 17, to vote on $30,000 bonds to build roads. Address County Clk., Durham.

N. C., Roxboro—Person County voted $300,000 bonds to build roads. Address County Clk., Roxboro.

N. C., Warrentown—City issued $15,000 bonds to improve streets.

S. C., Darlington—City to sell $50,000 bonds Apr. 6, to pave streets. E. Vaughn, Clk.

S. C., Easley—City election Apr. 16, to vote on $45,000 bonds paving 3-mi. streets, brick, also 7-mi. sidewalks and installation of sewage system in principal streets.

S. C., Union—Union County, Union Township, voted $125,000 bonds to improve roads. Address County Clk., Union.

Ga., Atlanta—City plans resurfacing portion West 15th St., paving portion Haynes St., laying gutter in portion Beattie Ave., also repairing 10 other streets. H. N. Hurt, City Engr.

Ga., Barnesville—City retained Solomon Norcross Co., Engr., Atlanta, to make plans paving portion Main St., also paving sidewalks.

Ga., Griffin—City voted $135,000 bonds to improve streets.

Fla., Gainesville—Alachua County election Apr. 27 to vote on $500,000 bonds to build roads. Address County Clk., Gainesville.

Fla., Kissimmee—Osceola County, 3rd Special Rd. Dist., plan to issue $275,000 bonds to build road to Brevard County line. Address County Clk., Kissimmee.

Fla., Orlando—City voted $60,000 bonds to improve streets.

Fla., Tampa—Hillsborough County election Apr. 24, to vote on $100,000 bonds to build 13.7-mi. hard surface roads, also necessary bridges, concrete, steel or iron. Address County Clk., Tampa.

Ala., Clanton—Chilton County election Apr. 16 to vote on $200,000 bonds to build roads. Address County Clk., Clanton.

Miss., De Kalb—Kemper County, Dist. No. 9, voted $50,000 bonds to build roads. Address County Clk., De Kalb.

Miss., Liberty—Amite County, 4th Dist. Supervs., voted $50,000 bonds to build link in S. S. Prentiss highway between Natchez and Mobile. Contract will soon be let. Address County Clk., Liberty.

La., Alexandria—Rapides County, Rd. Dist. No. 14, comprising Pineville, Tioga and Bells Precincts, voted $75,000 bonds building section Jefferson Highway connecting Pineville with Grant Parish section of highway and other roads. Address County Clk., Alexandria.

La., Colfax—Grant Parish, Road Dist. No. 8, to sell $150,000 bonds May 16, to build 33-mi. Jefferson Highway.

La., Donaldsonville—Ascension County, Rd. Dist. No. 2, election May. 1, to vote on $70,000 bonds to build gravel roads. This is additional to $50,000 recently voted to build 30-mi. highways. Address County Clk., Donaldsonville.

La., Lobdell—Good Roads Dist. No. 2, plans election to vote on $75,000 bonds to improve road from Chamberlain to Erwinville and other roads. A. W. Norman, Chn.

La., Monroe—City voted $61,000 bonds to pave and improve streets. R. O. Morrison, City Engr.

La., Oberlin—Allen County, Road Dist. No. 2, plans to spend $75,000 improving roads. Address County Clk., Oberlin.

Tenn., Chattanooga—L. B. Bryan, County Engr., making survey building and resurfacing with concrete portion Lookout Mountain Pike. Plans include 26,000 lin.ft. natural stone curbing. About $53,000.

Tenn., Cleveland—Town plans paving portion Inman, Ocoee, Church and other streets. About $25,000.

Tenn., Erwin—Unicoi County to issue $100,000 bonds to build roads. Address County Clk., Erwin.

Tenn., Jackson—Campbell County plans to issue $100,000 bonds to build macadam roads. Address County Clk., Jackson.

Tenn., Maynard—Union County plans to issue from $40,000 to $50,000 bonds to improve roads. Address County Clk., Maynard.

Tenn., Ooltewah—James County sold $80,000 bonds to improve Cleveland, Chattanooga and other highways. Contract soon to be let. J. L. Smith, Pikeville, Engr.

Tenn., Trenton—Gibson County plans several miles hard roads. Address County Clk., Trenton.

Ky., Hopkinsville—Christian County lets contract in spring 85-mi. macadam road. About $175,000. C. Folsom, Hopkinsville, County Engr.

Ky., Paducah—McCracken County lets contract in April graveling 120-mi. road. About $200,000. J. R. Thompson, Paducah, County Engr.

Ohio, Chillicothe—State Highway Dept., Columbus, soon lets contract paving 1-mi. road in Frankfort and 1¼-mi. in Kingston Townships. About $30,000 and $35,000, respectively. G. Perry, Chillicothe, County Surv.

Ohio, Cincinnati—City plans paving portion Erie Ave., asphalt, $23,025, bitulithic, $24,615; Dixmyth Ave., macadam, $12,215; Hamilton Ave., granite, $88,355; Hetzell St., concrete, also building 6-in. water mains in same, $14,144. F. S. Krug, City Engr.

Ohio, Cleveland—Cuyahoga County, Brecksville Township, voted $50,000 bonds to improve roads. Address County Clk., Cleveland.

Ohio, Columbus—City plans bond issue to pave portion 3rd, 4th, Main and Goodale St. About $180,000. H. Maetzel, City Engr.

Ohio, Columbus—City plans $75,000 bond issue for widening North High St. H. Maetzel, City Engr.

Ohio, Dayton—City rejected bids paving portion Jefferson St. and Manhattan Ave. New Bids. F. O. Eichelberger, City Engr.

Ohio, Hamilton—Butler County making plans estimating cost improving Need and Pippin Rd. Address County Clk., Hamilton.

Ohio, Havana—Huron County, Norwich Township, to sell $50,000 bonds Apr. 13 for road work. L. G. Bechtel, Clk.

Ohio, Lorain—Council passed ordinance paving portion Reid Ave. C. M. Osborne, City Engr.

Ohio, Mansfield—City plans improving portions 3rd, West 1st, Benton St. and 5 other streets. W. J. Hazelton, City Engr.

Mich., Flint—City plans improving roads. About $33,000. E. C. Shoecraft, City Engr.

Mich., Saginaw—City plans paving portion State St. About $20,000. H. H. Eymer, City Engr.

Ill., Hillsboro—City lets contract about July 1, paving 10,000-sq.yd. brick, 4-in. concrete base, also 10,000 lin.ft. 6 x 18-in. curb on Hamilton and Wood St. About $30,000. Warren Engr. Co., City Engr.

Ill., Rockford—Bd. Local Imprvts. plans paving portions 9 streets, macadam, about $76,750; 2 with brick, $36,000 and sewers in 2 streets, $5250. E. Main, City Engr.

Ill., Rushville—Bd. Supervs. Schuyler County plan to spend $15,587 hard surfacing roads during year. Government appropriated $4587 toward project. Address County Clk., Rushville.

Streets and Roads (Continued)

Wis., Ashland—City plans to spend $36,450 improving streets and roads. C. J. Wadak, City Engr.

Wis., Bayfield—Bayfield County plans to spend $200,000 improving roads. Address County Clk., Washburn.

Wis., Black River—Jackson County plans 18-mi. concrete road from Black River to Melrose. Address County Clk., Black River.

Ia., Audubon—City retained T. S. De Lay, Creston, to make plans paving 40 blocks.

Ia., Burlington—City plans paving portion Division and 9th St., brick and South Main St., cement concrete. C. E. Waterhouse, City Engr.

Minn., Minneapolis—City sold $595,410 bonds to improve streets. F. W. Cappelin, City Engr.

Minn., Moose Lake—Town voted $50,000 bonds to build roads. D. E. Anderson, Clk.

Kan., Neodesha—City to let contract in summer paving 20 blocks. C. A. Case, City Engr.

Mo., Benton—Scott County election in April to vote on $950,000 bonds grading and paving 190-mi. road, flint, gravel or clay binder. Address County Clk., Benton.

Ark., Texarkana—Miller County plans road from Texarkana along Texas state line to connect with road in Bowie County, Tex. About $15,000. County will also build 65-mi. more of roads for which bonds have recently been sold. Address County Clk., Texarkana.

Tex., Baird—Callahan County plans election to vote on bonds to build roads. Address County Clk., Baird.

Tex., Bay City—Matagorda County, Precinct No. 8 voted $36,000 bonds to build roads. Address County Clk., Bay City.

Tex., Boerne—Kendall County, Precinct No. 4, election Apr. 20 to vote on $80,000 bonds to build roads. Address County Clk., Boerne.

Tex., Cameron—Milam County, Travis Dist. No. 9, voted $20,000 bonds to build roads. Address County Clk., Cameron.

Tex., Cameron—Milam County, Rd. Dist. No. 10, including Rochdale, voted $150,000 bonds to build roads. Address County Clk., Cameron.

Tex., Cameron—Milam County, Mayesfield Rd. Dist. No. 12, voted $15,000 bonds to build roads. Address County Clk., Cameron.

Tex., Eastland—Eastland County plans election to vote on bonds to build roads. Address County Clk., Eastland.

Tex., Franklin—Robertson County, Justice Precinct No. 5, election Apr. 21 to vote on $50,000 bonds to build roads. Address County Clk., Franklin.

Tex., Georgetown—Williamson County election Apr. 17 to vote on $250,000 bonds to improve roads in Precinct No. 4. Address County Clk., Georgetown. Noted Jan. 18.

Tex., Giddings—Lee County, Rd. Dist. No. 1, voted $150,000 bonds to build roads. Address County Clk., Giddings.

Tex., Paris—Lamar County election Apr. 28 to vote on $1,000,000 bonds to build roads. Address County Clk., Paris.

Tex., Pittsburg—Camp County Precinct No. 1 plans election to vote on $110,000 bonds to build roads. Address County Clk., Pittsburg.

Tex., Sulphur Springs—Hopkins County, Rd. Dist. No. 3, election Apr. 21 to vote on $12,000 bonds to build roads. Address County Clk., Sulphur Springs.

Tex., Wichita Falls—Wichita County election June 15 to vote on $700,000 bonds to build roads. Address County Clk., Wichita Falls.

Okla., Blackwell—City soon receives bids brick paving in Dist. No. 3 and 4. About $180,000. Benham Engineering Co., 1300 Colcord Bldg., Oklahoma City, Engr.

Okla., Hydro—Caddo County election Apr. 17, to vote on $20,000 bonds to improve roads. Address County Clk., Anadarko.

Okla., Okmulgee—G. V. McClure, City Engr., made plans improving portions of 9th, 2nd, 4th and 11th St. also Frisco, Choctaw and Okmulgee Ave.

Okla., Pryor—Mayes County, Chouteau Township, election Apr. 10 to vote on $20,000 bonds to improve roads. Address County Clk., Pryor.

Okla., Sand Springs—City plans paving 25,000-yd. asphaltic concrete. C. C. Evans, City Clk.

Okla., Wellston—Town election Apr. 10, to vote on $12,000 bonds to improve roads.

Colo., Telluride—San Miguel County soon receives bids 2 sections State Primary Rd. No. 44 between Placerville and Telluride. Address County Clk., Telluride.

Idaho, Boise—State authorized $1,000,000 bond issue to build roads.

Ariz., Phoenix—Bd. Supervs. Maricopa County plans election to vote on bonds to build highways. Address County Clk., Phoenix.

Wash., Bellingham—City plans paving portion Lake St., 32-, 24- and 16-ft. wide also building concrete curb and gutters on same. About $50,000. C. Lindberg, City Engr.

Ore., Astoria—City plans paving Exchange and Bond St. and Lexington Ave. About $18,000. G. T. McCrean, City Engr.

Ore., John Day—Grant County election in June to vote on $140,000 bonds to build John Day highway. Address County Clk., Canyon City.

Calif., El Centro—Bd. Supervs. Imperial County plans building 50-mi. road from Niland to Calexico and El Centro to Holtville, asphalt macadam. Address County Clk., El Centro.

Calif., Oakland—City plans to spend $100,000 paving portion East 14th St. P. F. Brown, City Engr.

Calif., Redding—Shasta County Supervs. plan election to vote on bonds to build several miles of highways. Address County Clk., Redding.

Calif., Sacramento—State Highway Comn., 515 Forum Bldg., to let contract about May 1, improving highways. About $3,000,000.

Calif., San Francisco—Bd. Pub. Wks. soon lets contract building 1st section of Marina Blvd. About $30,000. M. M. O'Shaughnessy, City Engr.

N. B., Moncton—City soon lets contract paving various streets, bitulithic, concrete and macadam. About $125,000.

Bids Desired

Ct., Greenwich—(Official)—Highway Comm., office of Supt. of Highways, Town Hall, receiving bids Apr. 11, 17,000 sq.yd. concrete pavement. L. V. Lockwood, Chn. Advertised in this issue.

N. Y., Islip—(Official)—C. D. Schlemmer, Supt. Highways, receiving bids Apr. 12, 2880 cu.yd. concrete paving. R. J. Bartley, Jr., Engr. in Charge. Advertised in this issue.

N. Y., Mamaroneck—(Official)—Village receiving bids Apr. 9 furnishing 500 cu.yd. 1½-in. trap rock, 1000 cu.yd. ¾-in. trap rock, 250 cu.yd. screenings, and on same quantity of blue stone of same sizes, said quotations to be based upon delivery of said stone at dock. E. L. Howe, Village Clk. Advertised in this issue.

N. Y., New York—(Bronx)—C. Ward, Comr. Park Bd., Municipal Bldg., receiving bids Apr. 12 furnishing all labor and materials for repaving with sheet asphalt and asphalt blocks on concrete foundation portion Eastern Blvd.

N. Y., New York—(Manhattan)—R. A. C. Smith, Comr. Docks, Pier "A," Battery Pl., North River, receiving bids Apr. 13 Contract No. 1563, repairing asphalt pavement marginal streets and piers, North, East and Harlem Rivers.

N. Y., New York—(Manhattan)—M. M. Marks, Boro. Pres., Room 2032, Municipal Bldg., receiving bids Apr. 9 furnishing and delivernig 1400 tons asphaltic paving cement, 7000 cu.yd. paving sand and 3000 cu.yd. paving gravel.

N. Y., New York—(Richmond)—C. D. Van Name, Boro Pres., Boro Hall, St. George, New Brighton, S. I., receiving bids Apr. 9 repaving 2 portions Amboy Rd.

Pa., Greensburg—Westmoreland County Supervs. receiving bids Apr. 10 improving Sect. No. 2 Scottdale-Greensburg Rd. from Station No. 30 to Station No. 206. A. H. Myers, A. F. Bentz and F. B. Tarr, Greensburg, Supervs.

Pa., Pittsburgh—Allegheny County receiving bids Apr. 17 improving Clinton and Frankford Extension Rd. also Renzie Rd. About $40,000. Address County Clk., Pittsburgh.

Pa., South Bethlehem—(Official)—R. Pfeiffle, Chn. Street Com., receiving bids Apr. 23 laying about 75,000 sq.yd. street paving, including brick, amiesite, bitulithic, sheet asphalt, asphalt macadam, tarvia and concrete. R. M. Brady, Municipal Bldg., 3d and Birch St., Boro. Engr. Advertised in this issue.

Va., Franklin—City receiving bids Apr. 24, improving streets, plans include 3500-sq.yd. pavement, 1½-mi. gravel road and 3500-ft. sanitary sewers, also curbing, guttering, etc. Anderson & Christie, Charlotte, N. C., Consult. Engr.

W. Va., Fairmont—(Official)—Marion County receiving bids Apr. 16 furnishing stone, slag, gravel, sand and paving brick or block for building 22-mi. improved roads and streets in Paw Paw Dist. A. G. Martin, Fairmont, County Clk. Advertised in this issue.

W. Va., Fairmont—(Official)—Marion County receiving bids Apr. 16 furnishing stone, slag, gravel and stone, f.o.b. point of shipment, and paving brick or blocks, f.o.b. Farmington, Downs, Monongah, Worthington, Hutchinson and intermediate points for building 32-mi. improved roads and streets in Lincoln Dist. A. G. Martin, Fairmont, County Clk. Advertised in this issue.

N. C., Beaufort—City receiving bids Apr. 20, building 10-mi. cement sidewalks, also water and sewer systems. Bonds for $100,000 voted for project. G. C. White, Durham, Engr.

N. C., Elkins—City receiving bids Apr. 20, 10,000-yd. street paving, 2800 lin.ft. combined curb and gutter, 1100 lin.ft. granite curb and 3000-cu.yd. excavation.

S. C., Anderson—City receiving bids Apr. 10 paving 150,000-sq.yd., asphalt, brick or concrete. About $250,000. J. B. McCrary Co., 3rd National Bank Bldg., Atlanta, Engr.

S. C., Beaufort—City receiving bids about May 15, 13,000-sq.yd. pavement, cement concrete.

Ala., Grove Hill—Clarke County Comrs. receiving bids Apr. 30, graveling 3½ mi. State Trunk Rd. No. 1, between Grove Hill and Fulton, and 4-mi. between Grove Hill and Jackson. Address County Clk., Grove Hill.

Miss., Greenville—Washington County Highway Comrs. receiving bids Apr. 12 surfacing 830,000-sq.yd. roads, concrete. J. S. Allen, Greenville, Engr.

Miss., Laurel—City receiving bids Apr. 10, 15,178-sq.yd. asphalt, 3832-sq.yd. brick, 1400-sq.yd. gravel, and 8800 lin.ft. curb and gutter. H. W. Bell, City Engr.

Ky., Galesburg—(Official)—T. J. Vermillion & Son, Barbourville, desire to sublet contract to grade about 60,000 yd. in Knox County on State Highway; will let as whole or parts. Advertised in this issue.

Ohio, Alexandria—Village receiving bids Apr. 25 improving portion Granville Rd. and Main St. W. H. Proctor, Clk.

Mich., Ann Arbor—Dist. Rd. Comrs. Washtenaw County receiving bids Apr. 14 building 7½-mi. highways. Address County Clk., Ann Arbor.

Mich., Marquette—See item under "Bridges."

Ill., St. Charles—(Official)—City receiving bids Apr. 10 about 4500 sq.yd. brick pavement. J. W. Wilson, City Engr. Advertised in this issue.

Ill., Springfield—(Official)—State Highway Comn. receiving bids Apr. 11 state-aid roads as follows: Adams County, macadam, $24,494; Coles County, brick, $15,639; Lake County, concrete, $22,010; Morgan County, oiled, $14,122; Ogle County, concrete, $18,473; Peoria County, concrete, $32,872; Whiteside County Section F, gravel, $12,726; Section G, gravel, $13,222.

Wis., Cudahy—City receiving bids Apr. 17 paving portion Plankinton and Packard Ave., concrete, also portion Van Norman Ave., macadam or concrete. J. W. Sojka, City Clk.

Wis., Waukesha—City receiving bids Apr. 20 macadamizing Elizabeth Ave. W. Powrie, City Engr.

Minn., Blue Earth—(Official)—Fairbault County receiving bids Apr. 25 grading, grubbing and installation corrugated metal culverts on 20-mi. earth roads. About $28,500. R. J. Short, Highway Engr.

Minn., Morris—Stevens County receiving bids Apr. 21 building state road. C. R. Wolthan, Morris, County Audr.

Minn., Wheaton—Traverse County receiving bids Apr. 10 building 11-mi. State Rd. No. 1, 65,000-cu.yd. grading and turnpike; 3½-mi. Road No. 3, 18,000-cu.yd. grading and turnpike. J. T. Erickson, Wheaton, County Audr.

Tex., Plainview—City receiving bids Apr. 17 furnishing labor and materials, grading, draining and paving 70,000 sq.yd. H. E. Elrod, Interurban Bldg., Dallas, Consult. Engr.

Okla., Norman—City receiving bids Apr. 10, improving streets. About $17,500. J. Klingle-smith, City Engr.

Prices and Contracts Awarded

Mass., Boston—State Highway Comn. received low bid highway in Meuthuem Township from J. C. Collins, Andover, $31,478.

Ga., Dalton—(Official)—City let contract paving Thornton Ave., Selvidge and Cleveland St. to MERRELL ROAD AND IMPROVEMENT CO., James Bldg., Chattanooga, Tenn.

Mass., Boston—State Highway Comn. let highways in townships as follows: Andover and North Reading to ALCO CONSTRUCTING CO., 178 North St., $44,196; Millbury to LUCHINI & MANZANI, Medford, $30,057.

Mass., Salem—City received low bids re-building and paving New Derby St. from M. McDonough & Co., Swampscott, $53,441; Simpson Bros. Corp., 166 Devonshire St., Boston, $56,021; Cape Ann Granite Corp., Beverly, $57,676.

N. J., Greenville—(Official)—Pennsylvania R.R. let contract paving 18,150-sq.yd. piers with Hastings asphalt blocks to HASTINGS PAVEMENT CO., 25 Broad St., New York, $30,310.

Pa., Ebensburg—(Official)—Cambria County let contract 1-mi. Cresson Pike, brick, to E. H. BRUA, Hollidaysburg.

Pa., West Berwick—City let contract grading, paving and curbing 2nd and La Salle St. and Freas Ave. to GIBBONS & BUCKLEY, Lansdowne, $48,921.

Pa., Wilkes-Barre—(Official)—Luzerne County let contract paving 19,700-sq.yd. Pittston Rd. with "Hastings" asphalt blocks to B. G. COON CONSTRUCTION CO., Luzerne, $64,446.

Md., Baltimore—City let contract 20,000-sq.ft. concrete pavement and grading 4- to 5-mi. streets to EASTERN DEVELOPMENT CO., 806 Lexington Street Bldg.

Va., Rustburg—Campbell County received low bids building 6 section bituminous macadam road Brookaville Dist. as follows: Virginia Construction Co., Lynchburg, 3.7-mi., $40,612, 1.1-mi., $10,289, 2.65-mi., $26,572, 2.42-mi., $34,103; T. W. Chandler, Virgilina, 9.55-mi., $12,820; 9.69-mi., $13,123.

Fla., Fellsmere—City let contract improving streets to J. B. McCRARY ENGINEERING CO., Atlanta. About $50,000 available.

Miss. New Albany—Union County let contract hard surfacing 29-mi. road to W. O. HICKS & SON, Pantotoc.

Tenn., Ooltewah—James County let contract 30-mi. road to SOLOMON CONSTRUCTION AND ENGINEERING CO., Harriman.

Ky., Greenup—Greenup County let contract 8-mi. road to G. A. REEVES, Palymyra.

Ohio, Hamilton—Butler County let contract paving Temper Rd., concrete, to C. STAAT, $24,600.

Streets and Roads (Continued)

Ohio, Lima—(Official)—City let contract paving, grading, curbing, guttering and sewers in McPheran, Madison and Seland Ave., West Vine, Scott and Metcalf St. to ANDREWS ASPHALT PAVING CO., Hamilton, $75,764.

Ind., Goshen—Elkhart County let contract brick road, Elkhart Township, to CRIPE & SVANIOUS, Goshen, $32,900.

Mich., Marshall—Bd. Rd. Comrs. Calhoun County rejected bids 5.76 mi. paving, 18 ft. wide, cement concrete, bituminous concrete or brick on concrete foundation. G. R. Peet, Chn.

Mich., Menominee—(Official)—City let contract improving Parmeter and Jenkins St. and Michigan Ave. to A. CARLSON, 904 Michigan Ave., $29,952.

Ill., Berwyn—City let contract paving Clarence Ave. to H. G. GOELITZ CO., Berwyn, $19,-900.

Ill., Oak Park—(Official)—Bd. Local Impvts. let contract paving Harrison Pl. and Congress St. to J. W. BARKER, 501 North 5th Ave., Maywood, $10,862.

Wis., Racine—City received low bids paving 12,000 sq.ft., brick, and 4118 lin.ft. curb and gutter from J. Cape & Son, Racine, $29,975.

Kan., Pratt—City let contract paving 48,530-yd. brick to WATTS & AMMERMAN, Salina, about $114,733.

N. D., Fargo—City received low bids paving jobs Nos. 134, 135 and 137, about 63,768-sq.yd. bitulithic, from S. Birch & Sons Construction Co., $181,471; Job No. 133 and 136, about 64,-242-sq.yd. bitulithic, about $175,811.

Mo., Kansas City—City let contract grading 130,000-cu.yd. 12th St. to M. HASSA, 2615 Oak St., $56,550.

Tex., Austin—(Official)—City let contract paving West Ave. to TEXAS BITULITHIC CO., Praetorian Bldg., Dallas. $45,000.

Okla., Tulsa—City let contract paving streets to STANDARD PAVING CO., Columbus, Ohio. $118,000.

Wash., Everett—Snohomish County let contract concrete pavement on permanent highways Nos. 4, 5 and 34, to WASHINGTON PAVING CO., L. C. Smith Bldg., Seattle, $13,838, $32,078 and $31,132, respectively.

Wash., North Yakima—City let contract sidewalks in Dists. Nos. 270 and 269 to WASHINGTON PAVING CO., L. C. Smith Bldg., Seattle, and J. L. SMITH, 1475 20th Ave. Seattle, $23,092 and $6009 respectively.

Wash., Seattle—King County received low bid building Julia Blinn Rd. from Rienseth Bros., Everett, at $22,500.

Calif., Blythe—City let contract 200,000-sq.ft. cement sidewalks and 30,000 lin.ft. cement curbs to J. JOHNSON, 1728 South Oxford Blvd., Los Angeles, $33,013.

INDUSTRIAL WORKS

Proposed Work

Vt., Bennington—Cooper Manufacturing Co. plans 5-story, 80 x 350-ft. mill.

Vt., Burlington—Vermont Milk Chocolate Co. plans 1 2- and 3-story, 150 x 167-ft. brick additions.

Mass., Boston—Cox Confectionary Co., 116 North St., made plans 6-story, 75 x 100-ft. candy factory. H. M. Haven & W. W. Crosby, 49 Court St., Arch.

Ct., Hartford—Brown, Thomson & Co., 942 Main St., plans 8-story, 80 x 140 brick and steel factory.

Ct., New Britain—North & Judd Manufacturing Co., 500 East Main St., made plans 6-story 65 x 160-ft. plant. G. M. Landers, Pres. J. A. Stevens, 8 Merimac St., Lowell, Mass., Engr.

Ct., New London—New London Broaching Machine Co., recently incorporated with $60,000 capital stock, plans 30 x 160-ft. factory.

Ct., Plantsville—Atwater Manufacturing Co. plans 2-story, 80 x 140-ft. addition to finishing room and 1-story, 30 x 50-ft. addition to forge shop.

Ct., Waterbury—G. L. Lilly Co. plans 5-story, 110 x 140-ft., concrete building, West Main St., also 1-story, concrete addition.

N. Y., Buffalo—Rice & Adams Dairy Machinery Co. made plans 3-story, 60 x 150-ft. factory. About $75,000. G. M. Wolfe, 1377 Main St., Arch. and Engr.

N. Y., Geneva—Standard Optical Co., 160 Lyceum St., made plans 2-story, 50 x 136-ft. factory and office building. Gordon & Madden, 300 Sibley Bldg., Rochester, Arch.

N. Y., New York—(Brooklyn)—W. Beckers Aniline and Chemical Works, 83rd St. and Ditmas Ave., made plans 1-story, 82 x 165-ft. factory. About $100,000.

N. Y., New York—(Brooklyn)—A. T. McCafferty, 505 Driggs Ave., soon lets contract 2-story, 75 x 100-ft. brick addition. Volckening & Holler, 82 Wall St., Manhattan, Arch.

N. Y., New York—(Manhattan)—Horton Ice Cream Co., West 16th St., plans 4-story, 20 x 100-ft. addition to plant, 221 East 24th St.

N. Y., New York—(Manhattan)—**Runkel Bros., Inc., 451 West 30th St., made plans 100 x 130-ft. factory. About $200,000. L. Runkel, Pres. G. F. Pelhem, Inc., 30 East 42nd St., Arch.**

N. Y., New York—(Manhattan)—Tremont Silk Mills, 35 Nassau St., made plans 1- and 4-story addition. About $60,000. Buchman & Fox, 30 East 42nd St., Arch.

N. Y., Poughkeepsie—Suchard Chocolate Co., 4 White St., plans 3-story, 247 x 400-ft. factory.

N. Y., Solvay—Pass & Seymour made plans 3-story, 60 x 185-ft. factory. Russell & King, 602 Snow Bldg., Syracuse, Arch.

N. Y., Syracuse—Hotaling, Warner Co., 720 North Clinton St., made plans, 3-story, 39 x 40-ft. addition to boiler house. Russell & King, Snow Bldg., Arch.

N. J., East Orange—(Official)—We have been advised that the American Radiator Co., 820 South Michigan Ave., Chicago, does not plan any buildings in East Orange.

N. J., Harrison—New Jersey Tube Co., manufacturer of sheet brass and brass tubing, plans 1-story, 120 x 280-ft. addition to its plant.

N. J., Linden—Grasselli Chemical Co., 80 Maiden Lane, New York, plans 40 x 200-ft. addition. About $63,000.

N. J., Newark—Newark Wire Cloth Co., 224 Verona Ave., purchased site on Mt. Prospect Ave. and plans 4-story, 100 x 125-ft. factory. About $50,000. J. C. Campbell, Pres.

N. J., Passaic—Manhattan Rubber Co., Willett St., plans 4-story, brick and rein.-con. addition. About $140,000.

N. J., Passaic—New Jersey Engineering and Supply Co., 117 Main Ave., plans 4-story, storage building at 36 Exchange Pl. About $75,000.

N. J., Perth Amboy—Eastern Cigar Co., recently organized, plans 2-story factory on Sutton St. About $50,000. M. Rippenbein, Pres.

Pa., Emporium—Aetna Explosives Co. plans rebuilding factory recently destroyed by fire. About $50,000.

Pa., New Castle—Armour Packing Co., Union Stock Yards, Chicago, plans packing plant. About $60,000.

Pa., Phila.—Barber, Hartman & Co., Commonwealth Trust Bldg., interested in project to build warehouse on North 5th St. About $65,000.

Pa., Phila.—(Bridesburg)—**C.** Gennig & Co., plans 60 x 200-ft. factory and 35 x 65-ft. garage.

Pa., Pittsburgh—Pittsburgh Printing Co. made plans 4-story, 70 x 106-ft. printing house, 6th Ave. and Forbes St. W. J. Golder, 518 7th Ave., Pres. S. F. Hackert, Bessemer Bldg., Arch.

Pa., Warren—Warren Mirror Works plan 1-story, 70 x 150-ft. factory and boiler house. About $50,000. F. Grunninger, Wetmore Bldg., soon receives bids.

Va., Norfolk—Southern Fiber Co. plans additions. About $200,000.

Ohio, Cincinnati—G. H. Strietmann's Sons Co. made plans 2-story, 50 x 150-ft. garage and warehouse. About $60,000. A. P. Strietman, 225 West 12th St., Pres. Stegner & Hughes, Commercial Tribune Bldg., Arch.

Ohio, Cleveland—Harris Calorific Co., 2103 Superior Viaduct, plans 2-story, 70 x 125-ft. factory, Washington St.

Ohio, Cleveland—Mechanical Rubber Co., Lisbon Rd., made plans 7-story, 80 x 200-ft. factory. About $200,000. Lockwood, Greene & Co., 60 Federal St., Boston, Mass., Engr.

Ohio, Cleveland—Templar Motors Corp., New Guardian Bldg., purchased site, Fisher Rd. and New York Central R.R. and plans factory. About $200,000.

Ohio, Lima—Lake Erie & Western R.R. making plans new shops. J. K. Conner, Washington and Noble St., Indianapolis, Ch. Engr.

Ohio, Sandusky—Hind & Dauch Paper Co., 821 Water St., made plans 3-story, 100 x 720-ft. factory. About $500,000. A. M. Allen & Co., 1900 Euclid Bldg., Cleveland, Arch.

Ohio, Yorkville—Wheeling Steel and Iron Co. plans blast furnaces, steel plant, plate and skelp mill. About $5,000,000.

Ind., Frankfort—N. F. Smith & Co. retained J. E. Sheblessy, Blymer Bldg., Cincinnati, to make plans plant. About $50,000.

Ind., Indianapolis—Indianapolis Light and Heat Co. soon lets contract 6-story, 100 x 200-ft. power plant on Kentucky Ave. About $200,000. A. W. Higgins, 48 Monument Pl., Mgr.

Ind., Kokomo—Haynes Steelite Co., 6th Floor, Citizens Bank Bldg., made plans factory. About $175,000. E. E. Dunlap Co., 616 Citizens Bank Bldg., Arch. Snider & Rotz, 1004 Merchants Bank Bldg., Engr.

Ind., Terre Haute—Terre Haute Boiler Works, 13th St. and Vandalia R.R. soon receives bids 1-story, 60 x 180-ft. addition to boiler shop. D. B. Shourds, 511 Tribune Bldg., Arch.

Mich., Alma—Central Michigan Light and Power Co. plans power house on Pine River. About $150,000.

Mich., Alma—J. F. Field Co., manufacturer of truck bodies, making plans 1-story, 60 x 300-ft. factory and office building. J. F. Field, Ionia, Gen. Mgr.

Mich., Detroit—Whitehead & Kales Iron Works, Beach and Mississippi Central R.R., plans 74 x 272-ft. foundry and 62 x 112-ft. machine shop. J. T. Warner, Secy.

Ill., Chicago—E. W. Bredemeier plans 5-story, 75 x 140-ft. plant. About $125,000. Hudson & Weiss, 53 West Jackson Blvd., Arch.

Ill., Chicago—Commonwealth Edison Co., 72 West Adams St., soon received bids for addition to 1-story, sub-station. Von Holst & Pyfe, 72 West Adams St., Arch.

Ill., Chicago—H. Kramer & Co., 703 South Canal St., soon receives bids foundry and warehouse. About $60,000. D. S. Klafter, 64 West Randolph St., Arch.

Ill., Chicago—Marathon Underwear Co., 1632 North Halstead St., soon receives bids 3-story factory. About $75,000. P. Gerhardt, 64 West Randolph St., Arch.

Wis., Beloit—Lipman Car and Refrigerator Co. making plans plant, including foundry, machine shop, wood-working shop, sheet-metal working shop, sheds, warehouses, storage tracks, etc. W. W. Robinson, Arch. and Engr.

Wis., Manitowoc—Wisconsin Securities Co., 1410 1st National Bank Bldg., plans electric power plant. About $250,000. Woodmansee-Davidson Co., 1426 1st National Bank Bldg., Milwaukee, Arch.

Wis., Milwaukee—Wisconsin Motor Manufacturing Co. made plans 1-story, 114 x 228-ft. addition. About $60,000. C. H. Jones, Pres.

Wis., Waukesha—Harris Dairy Co., 110 Barstow St., made plans cold-storage and ice-cream plant. About $75,000. G. Harris, Mgr. R. A Messmer & Bro., Majestic Bldg., Milwaukee, Arch.

Ia., Mason City—J. Decker & Sons plans 1-story, 50 x 70-ft. boiler plant. About $60,000.

Ia., Rockwell—Gunn Road Machine Manufacturing Co., recently organized with $75,000 capital stock, plans 60 x 120-ft. factory.

Ia., Waterloo—O. A. Repan Automobile Co. plans assembling plant and garage. About $120,-000. C. P. Schockley, 719 Black Bldg., Arch.

Minn., St. Cloud—Pan Motor Co., recently incorporated with $5,000,000 capital stock, purchased site and plans automobile factory.

Minn., St. Paul—St. Paul Gas Light Co., 6th and Jackson St., made plans 2-story, 80 x 140-ft. power plant. P. Doty, 2nd Vice-Pres. F. A. Otto, Pur. Agt.

Neb., Deshler—Deshler Auto Spring Wheel Co., recently organized with $100,000 capital stock, plans 2-story, 75 x 150-ft. factory. W. Nance, Pres.

Neb., Omaha—Gordon-Lawless Co. plans 5-story addition, 9th and Dodge St.

Neb., Omaha—Standard Furniture and Supply Co., 411 South 10th St., purchased site and plans plant. About $70,000.

N. D., Fargo—Manchester Biscuit Co. plans addition. About $60,000. R. J. Cone, Mgr.

N. D., Scranton—Johnson Fuel Co. making plans briquetting plant, 10 units. About $500,-000.

Mo., Edith—Plans are being made for dam and power plant on Niangua River near Edith, Camden County, for C. F. Robertson and associates. About $1,000,000.

Mo., St. Louis—Alios Aufrichty Copper and Sheet Metal Works soon receives bids 2-story, 48 x 50-ft. factory. Helfensteller, Hersh & Watson, Chemical Bldg., Arch.

Mo., St. Louis—Union Electric Light and Power Co., 12th and Locust St., plans substation, Broadway and Osage St. About $200,000. H. W. Eales, Ch. Engr.

Tex., Houston—Humble Oil Co., increased its capital stock from $300,000 to $4,000,000, and plans oil refinery.

Colo., Denver—Denver Rock Drill Co., 3900 Gilpin St., plans addition. About $100,000.

Wash., Kent.—Libby, McNeil & Libby, 225 Jackson St., Seattle, purchased site and plans warehouse and factory. About $50,000. Plans are being made at Chicago offices, U. S. Stock Yards.

Wash., Tacoma—Carstens Packing Co., 1116 Comro St., plans rebuilding plant. About $100,-000.

Ore., Portland—Frei Pickle Works made plans 3-story, 75 x 140-ft. rein.-con. factory.

Calif., Los Angeles—Great Western Milling Co., 948 McGary St., plans addition to plant. About $200,000.

Calif., Richmond—Standard Oil Co., 200 Bush St., purchased 100 acres land and plans extension to refinery. About $1,000,000.

Calif., San Leandro—Best Gas Traction Co. plans addition to its tractor manufacturing plant. About $500,000.

Calif., Torrance—Porcelain Products Co. making plans factory buildings including furnaces, slip houses, warehouses, etc. About $65,000. S. Trood, 912 South Figueroa St., Arch.

Sask., Moose Jaw—Robin Hood Mills Co. plans extending plant. About $100,000.

Sask., Saskatoon—T. Eaton Co. making plans warehouse. About $125,000. J. Woodman, 702 Woodman Bldg., Winnipeg, Arch.

Bids Desired

Pa., Phila.—(Germantown)—Bellevue Worsted Mills, receiving bids Apr. 15 factory, dye and

Industrial Works (Continued)
power house. About $100,000. E. S. Dyer, 1517 Land Title Bldg., Engr.

Pa., **Phila.**—Stead & Miller, 4th St., receiving bids Apr. 15, 6-story, 60 x 90-ft. addition. Furness, Evans Co., Franklin Bank Bldg., Arch.

Minn., **Hopkins**—City receiving bids Apr. 10 gas plant. Long, Lamoreaux & Long, 830 Hennipin Ave., Minneapolis, Arch. F. C. Shepherd, 16 South 7th St., Minneapolis, Engr.

Mo., **St. Louis**—American Macaroni Co., 8th St. and Cass Ave., receiving bids Apr. 10, 3-story, 130 x 150-ft. factory. A. C. Janis, 1225 Syndicate Trust Bldg., Engr.

Prices and Contracts Awarded

Ct., **New Britain**—New Britain Machine Co. let contract addition to W. H. ALLEN, 331 Chestnut St., $60,000.

N. Y., **New York**—(Manhattan)—Washburn Wire Co., 528 East 118 St., let contract addition to factory to J. H. DEEVES & BROS., 103 Park Ave., $50,000.

N. J., **Hoboken**—Lightfoot, Schultz Co., 195 Plymouth St., Brooklyn, N. Y., let contract plant, Willow Ave., to TURNER CONSTRUCTION CO., 11 Broadway, New York, $70,000.

N. J., **Newark**—Aluminum Goods Manufacturing Co. let contract factory to LOCKWOOD & GREEN, 38 South Dearborn St., Chicago, $250,000.

N. J., **Paterson**—F. C. Reinhardt, 98 Belmont Ave., let contract factory East 19th St. and 10th Ave., to E. REIHL CO., 40 Goshen St., $90,000.

Pa., **Erie**—Erie Lighting Co., 11th and State St., let contract power plant to H. SHENK CO., 12th and Sassafras St., $160,000.

Pa., **Phila.**—Hale & Kilburn Co., manufacturer of iron and steel goods, let contract factory, 6th and Filbert St., to CRAMP & CO., 801 Denckla Bldg., $500,000.

Pa., **Phila.**—Strawbridge & Clothier let contract warehouse, 9th and Polar St., to IRWIN & LEIGHTON, 126 North 12th St., $450,000.

Ohio, **Cincinnati**—Viaduct Realty Co. let contract auto sales building, Gilbert Ave. and Court St., to M. MARCUS BUILDING CO., 2023 Reading Rd., $60,000.

Ohio, **Cleveland**—Cleveland Brass and Copper Mills Co., Guardian Bldg., let contract factory to WESTINGHOUSE, CHURCH & KERR, 37 Wall St., New York, $200,000.

Ohio, **Grafton**—Valley City Milling Co. let contract mill elevators and garage to BURRELL ENGINEERING CO., 323 South La Salle St., Chicago, $100,000.

Ohio, **Kings Mills**—Peters Cartridge Co., 1st National Bank Bldg., Cincinnati, let contract plant to WELLS-GRAY CO., Toronto, $175,000.

Wis., **Milwaukee**—W. A. J. Upham, Wells Bldg., let contract addition to garage and salesroom to RAULF CO., Patton Bldg., $50,000.

FEDERAL GOVERNMENT WORK

Proposed Work

R. I., **Newport**—Buildings—Bureau Yards and Docks, Navy Dept., Wash., revising plans seaman's gunners' quarters at Naval Torpedo Station. F. R. Harris, Ch.

Pa., **Phila.**—Shipbuilding Slip—Bureau Yards and Docks, Navy Dept., Wash., made plans additional slip at Navy Yard. About $384,000. F. R. Harris, Ch.

Va., **Norfolk**—Hydraulic Pumps—Bureau Yards and Docks, Navy Dept., Wash., made plans hydraulic pumps and accumulators at Norfolk and Phila. Navy Yards. About $38,000. F. R. Harris, Ch.

Va., **Norfolk**—Shipbuilding Slip—Bureau Yards and Docks, Navy Dept., Wash., made plans at Norfolk Navy Yard. About $270,000. F. R. Harris, Ch.

Miss., **Holly Springs**—Post Office—J. A. Wetmore, Act. Superv. Arch., Wash., rejected bids. Work will be readvertised.

Alaska, **Seward**—Buildings—Bureau Yards and Docks, Navy Dept., Wash., making plans radio buildings and mast. F. R. Harris, Ch.

Bids Desired

Me., **Portland**—Cement, etc.—U. S. Engr. Office, Portland, receiving bids Apr. 23 furnishing American portland cement, concrete sand, sand fill and reinforcing steel. Advertised in this issue.

Me., **Portland**—Steerage Barracks—J. A. Wetmore, Act. Superv. Arch., Treasury Dept., Wash., receiving bids Apr. 27 at U. S. Quarantine station.

N. Y., **New York**—Dredging—U. S. Engr. Office, 710 Army Bldg., 39 Whitehall St., receiving bids May 4 in Harlem River. Advertised in this issue.

Pa., **Gettysburg**—Roadwork—G. F. Downey, Depot Quartermaster, U. S. Army, Wash., receiving bids Apr. 10 resurfacing macadam road through U. S. National Cemetery.

Md., **Indian Head**—Tide Bridge—Bureau of Yards and Docks, Navy Dept., Wash, receiving bids Apr. 23 at Naval Proving Ground. F. R. Harris, Ch.

Wash., **D. C.**—Approaches—W. W. Harts, Col., U. S. A., Executive Office, Comn. on Memorial to Women of Civil War, 1729 New York Ave., receiving bids Apr. 16 approaches to Memorial to Women of Civil War. Advertised in this issue.

Wash., **D. C.**—Dredge—C. E. Dole, Gen. Pur. Agt., Alaskan Engineering Comn., Wash., receiving bids Apr. 23 furnishing 1 steam-driven suction dredge.

Wash., **D. C.**—Sewers—O. P. Newman, Room 427 Dist. Bldg., receiving bids Apr. 9 about 12,000 lin.ft. pipe and masonry sewers, 10 in. to 9 ft. 3 in. in diameter.

Wash., **D. C.**—Sewers—Dist. Comrs., Room 509, Dist. Bldg., receiving bids Apr. 21 about 2900 lin. ft. of 4 ft. 0 in. d. masonry sewers. Advertised in this issue.

Wash., **D. C.**—Structural Steel—E. Woods, Supt. U. S. Capitol Buildings and Grounds, receiving bids Apr. 14 for use in reconstruction of courthouse.

W. Va., **Wheeling**—Cement—U. S. Engr. Office, Wheeling, receiving bids Apr. 9 furnishing and delivering 40,000 bbl. American portland cement for Dams Nos. 21 and 22, Ohio River.

W. Va., **Wheeling**—Power House—U. S. Engr. Office, Wheeling, receiving bids Apr. 30 at Dam No. 24, Ohio River. Advertised in this issue.

Fla., **Pensacola**—Pier, etc.—Bureau Yards and Docks, Navy Dept., Wash., receiving bids Apr. 23, 2 concrete piers, reconstruction of existing pier, concrete drainage culvert, timber bulkhead, fill and concrete pavement at Navy Aeronautic Station. F. R. Harris, Ch.

Tenn., **Chattanooga**—Post Office and Court House—J. A. Wetmore, Act. Superv. Arch., Treasury Dept., Wash., receiving bids May 4, extension and remodeling. Advertised in this issue.

Mich., **Harbor Beach**—Stone Riprap—U. S. Engr. Office, Detroit, receiving bids Apr. 16 furnishing and placing stone riprap along lake faces of main and south breakwaters at Harbor Beach. Advertised in this issue.

Mich., **Port Huron**—Dredging—U. S. Engr. Office, Detroit, receiving bids May 3 in Black River. Advertised in this issue.

Mich., **Saulte Ste Marie**—Electric Cables and Wire—U. S. Engr. Office, Detroit, receiving bids May 1 furnishing and delivering. Advertised in this issue.

Wis., **Beaver Dam**—Post Office—J. A. Wetmore, Act. Superv. Arch., Treasury Dept., Wash., receiving bids May 7.

Wyo., **Powell**—Lateral Structures—U. S. Rec. Ser., Powell, receiving bids May 1 on Shoshone Project involving about 57-cu.yd. rein.-con., 1500 sq.yd. grouted paving, and placing in wooden structures about 10,000 ft. B. M. lumber, located near Garland on Chicago, Burlington & Quincy R.R. A. P. Davis, Ch. Engr. Advertised in this issue.

Ark., **Little Rock**—Dikes—U. S. Engr. Office, Little Rock, receiving bids Apr. 25 building 2 dikes and repairing 5 others in Arkansas River. Advertised in this issue.

Tex., **Dallas**—Iron and Steel—U. S. Engr. Office, Dallas, receiving bids Apr. 30 furnishing iron and steel for Dock and Dam No. 3, Brazos River. Advertised in this issue.

Idaho, **Boise**—Heating System—J. A. Wetmore, Act. Superv. Arch., Treasury Dept., Wash., receiving bids May 11 new system of conduit and wiring and alterations in heating system in U. S. assay office.

Calif., **Bolinas**—Coast Guard Station—U. S. Coast Guard, Wash., receiving bids May 15 Coast Guard Station No. 321 and accessories at Bolinas Bay. E. P. Bertholf, Capt. Commandant. Advertised in this issue.

Hawaii, **Pearl Harbor**—Magazine Buildings—Bureau Yards and Docks, Navy Dept., Wash., D. C., receiving bids May 7 (3) at Naval Ammunition Depot, Kuahna. F. R. Harris, Ch.

Prices and Contracts Awarded

Mass., **Hingham**—Building—Bureau of Yards and Docks, Navy Dept., Wash., received low bids Mar. 26 (a) magazine building and shell house (b) magazine building, (c) shell house, (d) 3 additional magazine buildings, (e) 4 magazine buildings and 1 shell house, (f) time of completion of contract, from Kennedy & Peterson Construction Co., 7 Water St., Boston, (a) $48,980, (b) $24,490, (c) $24,490, (d) $83,400, (e) $127,880, (f) 210 days, alternate bid, more rapid construction, (a) $51,980, (b) $25,990, (c) $25,990, (d) $87,870, (e) $139,850, (f) 120 days; C. E. Currier Co., 110 Summer St., Boston, (a) $54,639, (b) $28,084, (c) $27,062, (d) $88,832, (e) $142,172, (f) 275 days; Darling-Slade Construction Co., 52 Bridge St., Newport, (a) $58,472, (b) $30,600, (c) $29,100, (d) $100,800, (e) $157,800, (f) 180 days. F. R. Harris, Ch.

Ct., **Bridgeport**—Post Office—J. A. Wetmore, Act. Superv. Arch., Treasury Dept., Wash., received low bids remodelling, from Conners Bros. Co., Inc., 64 West 88th St., New York, $16,210, and N. B. Smyth, Inc., 417 East 34th St., New York, $16,900.

Ct., **New London**—Dredging—U. S. Engr. Office, New London, received bids Mar. 23 maintenance dredging in Connecticut River from Hartford & New York Transportation Co., Hartford, $16,000.

Ct., **New London**—Heating System—Bureau Yards and Docks, Navy Dept., Wash., let contract complete steam-heating system at Naval Submarine Base to NEWPORT ENGINEERING AND CONTRACTING CO., Newport News, Va., $13,949.

N. Y., **New York**—Dredging—U. S. Engr. Office, Room 802, Army Bldg., 39 Whitehall St., let contract dredging and removing rocks and boulders in Passaic River to GREAT LAKES DREDGE AND DOCK CO., 17 Battery Pl., New York, $85,000.

Md., **Baltimore**—Dredging—U. S. Engr. Office, Baltimore, let contract, Elk River, to MARYLAND DREDGING AND CONSTRUCTION CO., 1515 Fidelity Bldg., Baltimore, $10,620.

Ala., **Birmingham**—Post Office—J. A. Wetmore, Act. Superv. Arch., Treasury Dept., Wash., let contract to C. McCAUL CO., 1715 Sansome St., Phila., $673,623, Georgia Sample "A."

Tenn., **Memphis**—Riprap Stone—Mississippi River Comn., U. S. Engr. Office, Custom House, let contract furnishing and loading about 12,000 cu.yd. riprap stone on Government barges to A. STONE CO., Neely's Landing, Mo., $12,000.

Ohio, **Coshocton**—Post Office—J. A. Wetmore, Act. Superv. Arch., Treasury Dept., Wash., received low bids Mar. 29 (a) limestone, (b) sandstone from J. G. Unkefer & Co., Minerva, (a) $68,720, (b) $69,720; Westchester Engineering Co., White Plains, N. Y., (a) $74,900, (b) $77,000; C. A. Carson Co., 6408 Euclid Ave., Cleveland, (a) $76,300, (b) $79,000.

Ohio, **Martins Ferry**—Post Office—J. A. Wetmore, Act. Superv. Arch., Treasury Dept., Wash., let contract to J. G. UNKEFER & CO., Minerva, $35,500.

Mich., **Detroit**—Lock Gates—U. S. Engr. Office, Detroit, received low bids Mar. 15 steel lock gates for 4th lock, St. Mary's Falls Canal, from Milwaukee Bridge Co., 1400 34th St., Milwaukee, $229,970; Penn Bridge Co., Beaver Falls, $238,576; Independent Bridge Co., 829 Beaver Ave., Pittsburgh, $264,495.

Wash., **Bremerton**—Magazine Buildings—Bureau Yards and Docks, Navy Dept., Wash., received low bids, Mar. 26, at Puget Sound Navy Yard, from B. Calling & Co., 811 20th Ave., Seattle, $11,390; C. Kupler, 1309 7th Ave., Seattle, $11,500; C. H. Schaar, 721 21st Ave., Seattle, $11,700.

Cuba, **Guantanamo**—Fuel Oil Plant—Bureau Yards and Docks, Navy Dept., Wash., let contract to STEWART ENGINEERING CO., 17 Battery Pl., New York, $325,000.

CANALS, DITCHES AND IRRIGATION

Proposed Work

N. J., **Trenton**—Drain—City Comn. soon receives bids across lands of American Bridge Co. About $10,000. L. D. Hirsch, City Clk.

Ill., **Davis Junction**—Drainage—Town plans cleaning, deepening and extending ditch near Chicago, Burlington & Quincy R.R.

Minn., **Mahnomen**—Ditch—Mahnomen County plans Judicial Ditch No. 55. About $37,978. F. E. Johnson, Mahnomen, County Audr.

Minn., **Morris**—Ditch—Stevens County plans Judicial Ditch No. 5. Address County Clk., Morris.

Tex., **San Benito**—Irrigation—Santa Helena Improvement Co. plans irrigation pumping plant on Rio Grande and will build system of canals and ditches to supply water to irrigate 16,000 acres. About $500,000.

Colo., **Cheraw**—Drainage—Holbrook Irrigation Dist. plans system to drain land around city. M. Denson, Engr.

Utah, **Price**—Irrigation—J. H. Manson, and associates, made application with W. D. Beers, State Engr., for 50 second ft. of water taken out of Price River at point south of Colton where Fish Creek and White River join. Plans include 50,000-ft. channel and pipe line, water to be obtained from Colton Springs; also reservoir and power plant below Kyune and about 1½-mi. above Cameron Mines, Carbon County.

Calif., **Madera**—Irrigation—Madera Irrigation Dist. retained Claire & Stafford, Engrs., to make plans diverting water from San Joaquin, Fresno, and Chowchilla Rivers and tributaries to irrigate 400,000 acres land in Merced and Madera Counties, including dams and reservoirs. About $4,000,000.

Bids Desired

N. J., **Parkertown**—Ditching—Bd. Health receiving bids Apr. 24 cutting of about 75,000 lin.ft. of 10- by 30-in. ditching or equivalent on salt marshes of Little Egg Harbor Township along North Shore. T. J. Headley, New Brunswick, Executive Officer.

Ill., **Quincy**—(Official)—Pumping Plant Indian Grave Drainage Dist. at office of Secy. L. H. A. Neckerson, receiving bids May 1 construction and equipment of drainage pumping plant, consisting of 1 brick building on concrete foundation (with residence in second story), equipped with 1 54-in. and 1 36-in. centrifugal pump to be driven by electric motors, oil engines or steam engines, also suction bay and discharge pipes and other necessary appurtenances. W. A. Greiser, Comr. Advertised in this issue.

Ill., **Watseka**—Drainage—Big Beaver Levee and Drainage Dist. Iroquois County receiving bids Apr. 12 improving several branches. C. Hafstrom, Comr.

Ill., **Watseka**—Drainage—Comrs., Martinton Drainage Dist. No. 2 Iroquois County, receiving bids Apr. 12 improving several branches. F. Swanson, Comr.

Canals, Ditches and Irrigation (Continued)

Ia., Algona—Drainage—Kossuth County receiving bids Apr. 11 materials and labor in Kossuth, Emmet, Palo Alto Joint Drainage Dist. No. 1, involving 53 mi. tile ranging in size from 6- to 34-in., 990,000 cu.yd. open ditch. E. H. Beardsley, Algona, County Audr. G. D. Hart, Bancroft, Engr.

Prices and Contracts Awarded

N. Y., Albany—Barge Canal Work—W. W. Wotherspoon, State Supt. Pub. Wks., Capitol, suspended Contract No. 47-A which Central Dredging Co. has abandoned. Contract for completion will be let to SHEMAN-STALLEN CO.

Ill., Danville — (Official) — Drainage — Maple Grove Drainage Dist. Vermilion County received low bid from Carson-Payson Co., Class 2, $25,472, Class 3, $29,996, Class 8, $30,886.

Ia., Eldora—Drainage—Hardin County let contract Dist. No. 93 to J. JENSEN and 94, J. A. LOCKWOOD, contract for tile for both dists. let to ELDORA PIPE AND TILE CO.

Ia., Hampton — (Official) — Drain — Franklin County let contract tile for Drain No. 5 to HOOVER LUMBER CO., Northwood, $17,737; labor to HANSEN & CHRISTENS, Northwood, $5808, backfilling and open ditch work to F. E. SMITH, Clarion, 5c. cu.yd.

Ia., Mason City—(Official)—Drainage—Cerro Gordo County let contract open ditch work in drainage Dist. No. 40 to F. M. CRANE CO., Omaha, Neb., $46,863; tile to CEMENT PRODUCTS CO., Spencer, $74,075.

Ia., Onawa—(Official)—Drainage—Monona-Harrison Drainage Dist. No. 1 received bid on 7,000,000 cu.yd. excavation from J. B. Arpin Dredging Co., Grand Rapids, Mich., 10½c. on entire work; on 3,000,000 cu.yd. from F. M. Crane Co., Omaha, Neb., 7.8c. per cu.yd.

Prices and Contracts Awarded

Ia., Webster City—Drainage—Hamilton County let contract Ditch No. 205 to J. JENSEN, Williams, $6565, labor; NATIONAL PIPE CO., Webster City, $13,977, tile.

Minn., Fairmont—Ditch—Martin County let contract Ditch No. 76, near Granada to J. S. JENSEN, Rutland, $11,700.

Minn., Madison — (Official) — Ditch — Lac qui Parle County let contract Ditch No. 27 to C. E. GREENWALT, Topeka, Ind., $10,743.

Minn., Redwood Falls—Ditch—Redwood County let contract Ditch No. 40 to J. GERDING; No. 41 to TRACY CEMENT CO., Tracy; No. 42 to HEMINGSEN & HOUSE, Walnut Grove.

MISCELLANEOUS

Proposed Work

N. Y., Kingston—Elimination Grade Crossings—New York Central R.R. (lines east of Buffalo) estimated cost of Broadway crossings at about $240,000. G. W. Kittredge, Grand Central Terminal, New York, Ch. Engr. and Supervy. Valua. Engr. B. S. Voorhees, Engr. Grade Crossings.

N. Y., Rome—Motor-Driven Flusher—Bd. Pub. Wks. plans to purchase. J. Plunkett, City Engr.

N. J., Bayonne—Garbage Incinerator—City plans. P. Garven, Mayor. W. L. Clarkson, City Engr.

N. J., Bridgeton—Garbage Plant—Bd. Health plans garbage-disposal plant. W. Bacon, City Engr.

Pa., Erie—Flood Protection—City appropriated $850,000 for flood-protection tunnels for east and west branches Garrison Run. F. G. Lynch, City Engr.

Pa., Phila.—Drydocks, etc.—Delta Shipbuilding and Drydock Co., incorporated with $5,000,000 capital stock, plans drydocks, piers, etc. G. N. Neas, 27 William St., New York, interested.

Md., Baltimore—Steamship Pier—Standard Oil Co., Pratt and Commerce St., plans on 2nd St., about 1000-ft. long to replace 2 existing piers. T. Goodwillie, Gen. Mgr.

Va., Richmond—Wharf—L. Rose & Co., 420 Brook Ave., plans 500-ft. wharf in connection with warehouse to be built for steel billets. F. Steinheimer, 420 Brook Ave., Mgr.

Ga., Savannah — Harbor Improvements — City plans. About $2,000,000. W. B. Stillwell, Chn. Advisory Harbor Comn. E. R. Conant, City Engr.

La., New Orleans—Water Front Improvements—Port Comrs. will sell $25,000 bonds for water front improvements and additions to grain elevator and warehouse. E. M. Loeb, Pres.

Tenn., Chattanooga—Levee System—Engineering Dept. Southern Ry. making surveys and estimates for flood protection, may issue bonds. B. Herman, 1300 Pennsylvania Ave., Wash., D. C., Ch. Engr. M. W. and Struct.

Ohio, Barberton—Automatic Street Sweeper—City council plans to purchase. H. W. Alcorn, City Engr.

Ohio, Conneaut—Ore Docks—U. S. Steel Corp., 71 Broadway, New York, plans. About $5,000,000.

Ohio, Lorain—Docks—Pennsylvania Lines West of Pittsburgh plans coal and ore docks on river front on Lake Erie & Pittsburgh Ry. property. T. Rodd, Pennsylvania R.R. Sta., Pittsburgh, Ch. Engr.

Ohio, Massillon—Park Improvements—City soon receives bids Sippo Park. H. McYost, City Engr.

Ohio, Warren—Elimination Grade Crossings—Erie R.R. and Baltimore & Ohio R.R. made surveys at Todd, Highland and Park Ave. and Main and Pine St. W. J. Foster, 50 Church St., Engr. Grade Crossings, Erie R.R. R. N. Begien Baltimore, Ch. Engr. Baltimore & Ohio.

Mich., Sault Ste. Marie—Incinerator—Common Council plans garbage incinerator. R. A. Frederick, City Engr.

Wis., Superior—Dock—Valley Camp Coal Co. plans

Ark., Lake Valley—Levee—Southeast Arkansas Levee Dist. Chicot, Desha and Lincoln Counties, will sell $1,200,000 bonds Apr. 10, for building and enlarging levees. Address Clk. Chicot County, Lake Valley.

Ark., Little Rock—Dam—Bd. Comrs. Farrely Lake Levee Dist., plans on Big Bayou Meto, including levees. J. M. Gracie, Chn.

Utah, Midvale—Cement Pipe Line—City plans 3½-mi up Cottonwood Cañon. About $10,000.

Calif., Santa Barbara—Sea Wall—City making plans 2750-ft. on East Blvd. A. B. Cook, City Engr.

Ont., London—Dam—Pub. Utilities Comn. plans to develop 1500 hp. About $25,000. E. V. Buchanan, City Hall, Gen. Mgr.

Bids Desired

N. Y., New York—(Manhattan)—(Official)—Station Finish—Pub. Ser. Comn. for First Dist., 120 Broadway, receiving bids Apr. 18, station finish on portion of Prk. Pl., William and Clark St. subway.

Pa., Lebanon—(Official)—Flood Prevention—City receiving bids Apr. 19 Contract No. 1, consisting of channel straightening and lining with rein.-con., rein.-con. culverts, and bridges, requiring about 26,000 cu.yd. excavation, 4500 cu. yd. concrete, 200,000 lb. reinforcement, 90,000 lb. structural steel. P. Volcker, City Engr. Advertised in this issue.

Ky., Pikeville—Concrete Tipple—Edgewater Coal Co. receiving bids Apr. 25 at its plant at Robinson Creek.

Minn., Stillwater—Road Grader—Washington County receiving bids Apr. 23. N. A. Nelson, Stillwater, County Audr.

Ark., Pine Bluff—(Official)—Levee—Farelly Lake Levee Dist., receiving bids May 7 building levee across low land of Big Bayou Meto, Jefferson and Arkansas Counties, with flood gate and dam across Big Bayou Meto, also repairing, enlarging and rebuilding present levee within district. About $250,000. Humphreys & Tovey, Pine Bluff, Dist. Engr. Miller Engineering Co., Southern Trust Bldg., Little Rock, Consult. Engr.

Calif., Newport Beach—(Official)—Jetty—C. M. Crego, City Clk. recalled advertisement for rubble mound jetty at entrance of Newport Bay, bids for which were to have been received Apr. 23.

Prices and Contracts Awarded

Mass., Salem—Park Improvements—Essex County Comrs. received low bids Mar. 29 at Hawthorne Pl. from Hamilton & Nelson, Salem, $17,566 and M. McDonough & Co., Swampscott, $18,048.

N. Y., New York—(Manhattan)—(Official)—Special Work—Pub. Ser. Comn., for First Dist., 120 Broadway, let contract supply of special work. Order No. 11 to BETHLEHEM STEEL PRODUCTS CO., 111 Broadway, $34,136.

N. Y., New York—(Manhattan)—(Official)—Special Work—Pub. Ser. Comn., for First Dist., 120 Broadway, let contract supply special work, Order No. 12 to W. WHARTON, JR. & CO., INC., 30 Church St., $37,205.

N. Y., New York—(Manhattan)—(Official)—Special Work—Pub. Ser. Comn., for First Dist., 120 Broadway, let contract supply special work. Order No. 13 to RAMAPO IRON WORKS CO., 30 Church St., $41,801.

N. Y., New York—(Manhattan)—(Official)—Special Work—Pub. Ser. Comn. for First Dist., 120 Broadway, let contract supply special work. Order No. 14 to RAMAPO IRON WORKS, 50 Church St., $28,170.

N. J., Longport—(Official)—Seawall—Boro. received low bids Mar. 24 from J. Ferry & Sons, 2411 Madison Ave., Baltimore, $447,345, Bader-Sutton & Corson, Atlantic City, $383,247.

Pa., Chester—Collection of Ashes—City let contract to J. J. HAYES, JR., $10,000.

Pa., Phila. — (Official) — Elimination Grade Crossings—A. C. Shand, Ch. Engr., Pennsylvania R.R., Broad St. Station, received low bids Mar. 27 on Chestnut Hill branch from F. A. Haven & Co., 845 North 19th St., $51,634; Roudhouse, Arey & Co., $55,938; Brann & Stewart Co., Commercial Trust Bldg., $57,172.

Va., Norfolk—Seawall—Colonial Plave Corp. let contract to PRICE-RICHARDSON CONSTRUCTION CO., $28,000. J. M. Baldwin, 118 Brooke Ave., Engr., will supervise construction.

S. C., Charleston—Retaining Wall—City let contract to BRYAN & CO., Jacksonville, Fla., $41,585.

Mich., Flint—(Official)—City let contract Leith St. subway to HACKEDORN CONTRACTING CO., Pythian Bldg., Indianapolis, $59,107.

Wash., Kahlotus—Tunnel—Spokane, Portland & Seattle Railway Co., 822 Pittock Blk., Portland, let contract lining with concrete tunnel 2400-ft. long and 1800-ft. long near Hooper to PORTER BROS., Spokane, $75,000.

BUILDINGS

Proposed Work

Other items relative to Building Construction will be found under the following headings: "Industrial Works," "Federal Government Work" and "Miscellaneous."

Mass., Fall River—Theater—A. A. Spitz, 621 Cæsar Misch Bldg., making plans 110 x 146-ft. and 25 x 100-ft. About $200,000. W. R. Walker & Son, 17 Custom House St., Providence, Arch.

Ct., Bridgeport—City plans 3-story, 100 x 112-ft. public welfare building, Washington and Madison Ave. About $150,000. A. H. Terry, City Engr.

Bids Desired

Ky., Whitesburg—Business and Office—L. W. Fields receiving bids Apr. 17, 3-story. About $50,000.

Ia., Ames—Story County election Apr. 16 to vote on $75,000 bonds to build infirmary and insane hospital. Address County Clk., Nevada.

Minn., Mandan—School—St. Joseph Congregation receiving bids Apr. 14. About $50,000.

Mont., Forsyth—Store and Office—J. W. Forsyth receiving bids Apr. 20, 2-story, brick. About $50,000. C. C. Oehme, Stapleton Blk., Billings, Arch.

Ark., Pine Bluff—High School—Bd. Education receiving bids Apr. 7, 3-story, 120 x 154-ft. About $120,000. M. Selligman, Pine Bluff, Arch.

Calif., Sacramento—Bd. Education receiving bids Apr. 20, 2-story, rein.-con., on 17th and F St. About $200,000.

Ont., Kitchener—Hospital—Sisters of Charity, Queen's Crescent, receiving bids about Apr. 15. About $90,000.

Ont., Toronto—Office—Toronto Harbor Comn. receiving bids Apr. 9. About $200,000. Chapman & McGriffin, 95 King St., E., Arch.

Prices and Contracts Awarded

Mass., New Bedford—School—Bd. Education let contract to B. F. SMITH CO., New Bedford, $166,953.

Mass., Taunton—High School—Bd. Education let contract 3-story, 58 x 202-ft., brick and terra cotta to C. S. CUNNINGHAM & SONS CONSTRUCTION CO., 7 Water St., Boston.

N. Y., New York—(Brooklyn)—Library—Central Library let contract addition, Flatbush Ave. and Eastern Pkway, to T. DWYER, Broadway and 218th St., Manhattan.

N. Y., Onondaga Valley—Academy—Bd. Education, School Dist. No. 1 let contract to KIMBERLY CONSTRUCTION CO., Mayro Bldg., Utica, $207,017.

N. J, Ridgefield Park—High School—Bd. Education Overpeck Township let contract 3-story, 63 x 125-ft., Washington Irving School, Euclid Ave. and Hobart St., to F. & G. HAERTERY, Broadway, West New York.

Pa., North Braddock—School—Bd. Education let contract 2-story, 94 x 116-ft. to HADDER CONSTRUCTION CO., Braddock and Corey Ave., Braddock.

Pa., West Chester—High School—Bd. Education let contract to METZGER & FISHER, Denckla Bldg., Phila., $87,080.

Md., College Park—State College of Agriculture let contract 3-story, 85 x 200-ft. agricultural building to M. S. WATTS CO., Garrett Bldg., Baltimore, $165,000.

Wash., D. C.—Dormitory and Gymnasium—National Cathedral School for Girls let contract 4-story, 47 x 106-ft. and 1½-story, 45 x 106-ft., brick, to G. FULLER CO., Munsey Bldg., Washington and 175 5th Ave., New York.

Ga., Atlanta—Church—Auditorium—First Presbyterian Congregation let contract to MILES & BRADT, Austell Bldg., $90,000.

Ga., Atlanta—Hotel—Ansley Hotel let contract annex to A. O. CHANDLER, $300,000.

Ga., Atlanta—Hotel—F. G. Corker let contract 9-story, steel to MACKLE-CRAWFORD CONSTRUCTION CO., Grant Bldg., $100,000.

Ga., Macon—Store—Lamar, Taylor & Riley let contract to T. S. MOUDY & CO., Chattanooga, $75,000.

Ohio, Fremont—Temple—Masonic Lodge let contract 4-story, stone, brick and concrete to STEINLE CONSTRUCTION CO., Fremont.

Ohio, Lancaster—High School—Bd. Education let contract to SHOWERS & TAYLOR, Crooksville, $75,000.

Ohio, New Boston—High School—Bd. Education let contract to C. E. NOURSE, Portsmouth, $57,091.

Mich., Ionia—Hotel—Local Business Men's Association let contract 5-story, 41 x 126-ft. to COVELL CONSTRUCTION CO., Ionia, $90,000.

Ill., Chicago—School, Auditorium and Church—Our Lady of Solace Congregation, 6314 South Sangamon St., let contract 2-story, 124 x 136-ft. 62nd St. and Sangamon St., to A. ANDERSON, 19 South St.

Ia., Oskaloosa—School—Bd. Education let contract 2-story, brick and stone addition, also remodeling, to READ, McDONALD, BREWSTER, INC., Minneapolis, $120,000.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATER-WORKS

Proposed Work

Conn., Putnam—City making plans extending and improving water system. A Hawkins, G. H. Gilpatric, H. J. Smith, Bd. Water Comrs. Hanscom Constr. Co., 70 Kilby St., Boston, engr.

N. Y., Westfield—Village plans election to vote on $80,000 bonds to rebuild water system. J. A. Riely, clk.

N. J., Flanders—Boro. Officials plan water system. W. H. Grove, head of com.

N. J., Pequannock—Township Comrs. plan installation of water system for fire service. About $18,000.

Pa., Dallastown—Citizens voted $39,600 bonds to build water system.

N. C., Winston-Salem—City voted $125,000 bonds to extend water system.

S. C., Charleston—Citizens voted to purchase plant Charleston Light and Water Co. for $1,360,000, also authorized additional bond issue of $140,000 for improvements to same. J. M. Worthen, supt.

La., Monroe—City voted $612,000 bonds to build filter plant, improve light plant, install sewerage and drainage system and erect 2 schools.

Tenn., Manchester—City election soon to vote on $27,500 bonds for water system.

O., Bradford—Village voted $25,000 bonds to build new water-works also extend mains. O. H. Preston, village engr.

O., East Liverpool—T. Doherty, Ser. Dir. estimates cost of laying water mains in Oakwood and Northside Ave., Lisbon Rd. and other streets in Pleasant Heights Dist. at $19,555.

O., Lorain—Council voted $90,000 bonds for extensions and improvements to water-works.

Mich., Dundee—See "Water-Works."

Mich., Holland—See "Reinforced-Concrete."

Mich., Jackson—Citizens will soon vote on $40,000 bonds for water-works improvements and $40,000 for storm sewers.

Ill., Farmington—City election Apr. 17 to vote on $20,000 bonds to improve water system. E. Bennett, supt.

Ill., Metropolis—Bonds for $82,000 voted for electric-light and water-works improvements and extensions.

Wis., Osceola—City making plans water and sanitary sewer system. About $35,000. A. Ladd, city clk.

Wis., Stratford—City planning bond issue of $16,000 for water-works. W. G. Kirchoffer, Madison, engr.

Ia., Monroe—City defeated $30,000 bond issue for water system.

Ia., Pisgan—City voted $140,000 bonds for water and light plant.

Minn., St. James—City making plans 80-ft. water tower and tank. C. L. Larson, City Clk. J. G. Robertson, 2542 University Ave., St. Paul, engr.

Minn., Wabasha—City making plans laying water mains in portion Campbell St. About $20,000. J. M. Schonweiler, city rec. J. F. Druar, 312 Commercial Bldg., St. Paul, engr.

Neb., Scottsbluffs—City will soon let contract extension to water-works involving about 23,122 ft. 4- to 8-in. c.i. pipe; cost $31,382. O. F. Finley, city engr. A. L. Selzer, engr. in charge.

N. D., Berthoid—City plans to build water system including 100,000-gal. tank. About $12,000. T. R. Arnold, Great Falls, Mont., engr.

Wyo., Casper—City plans election to vote on $75,000 bonds to extend water mains.

Tex., Corsicana—City plans to vote on $50,000 bonds for water system.

Okla., Frederick—City voted $35,000 bonds for extensions and improvements to water-works, $5,000 to purchase and improve private electric-light plant and $30,000 for storm sewers. J. L. Morrow, supt. W. W.

Idaho, Twin Falls—City election Apr. 24, to vote on $420,000 bonds for installing and improving supply and distribution system, reservoir and filtration plant; also $176,000 for pipe line from Rock Creek to present system. W. Wyatt, supt.

Wash., Othello—City plans improvements to water-works consisting of new engine, extension of water mains and auxiliary tank for water storage. Project also includes electric-light plant.

N. S., Bay Shore—Canadian Pacific Ry. plans to build 10,000-gal. water tank. E. N. Bender, Montreal, purch. agt.

Que., St. Hyacinthe—Council will soon let contract filter system.

Ont., Islington—City made plans water system including pumps, filters, tanks and 3-mi. mains. About $82,000. J. Louden & Hertzberg, Excelsior Life Bldg., Toronto, Engr.

Ont., Oshawa—Town Council considering using water from stream instead of pumping from lake; cost about $150,000. W. G. Worden, town engr.

Ont., Toronto—City will install additional pump and motor at the Riverdale Pumping station. Cost $25,000. R. C. Harris, comr. of wks.

Bids Desired

N. J., Trenton—Until Apr. 11, by city comm. for one 8-in. double-suction impeller horizontal centrifugal type pump, capacity 2,000,000 gal. per 24 hours. Leon D. Hirsch, city clk.

Pa., West Chester—Until Apr. 25 by Boro. building pumping plant and installing sewers. About $15,000. N. R. Rambo, co. surv.

O., Celina—Until Apr. 17 J. M. Minter, clk., for extension to water-works, cost $12,000.

O., Cincinnati—See item under "Streets and Roads."

Mich., Holland—Until Apr. 16, by Bd. Pub. Wks. 1,000,000-gal concrete reservoir. R. B. Champion, supt.; advertised in this issue.

Cal., Coalinga—Until Apr. 16 by G. T. Walker, city clk., furnishing and installing elevated steel water tank. F. G. Dessery, 514 Central Bldg., Los Angeles, consult. engr.

Prices and Contracts Awarded

★Indicates award of contract.

★**Conn., Norwalk**—City let contract addition to filtration plant to Suburban Engineering Co., 15 West 38th St., New York.

★**N. Y., Canton**—Bd. Water Comrs. let contract water system to H. K. Corbin Co., 30 Church St., New York, $72,000; c.i. pipe for same to Cast Iron Pipe and Foundry Co., at $40 per ton.

★**N. Y., Geneva**—City let contract steel and concrete addition to filtration plant to J. H. Ripley, 23 West 57th St., New York, $26,298.

★**N. C., Belhaven**—City let contract electric-light plant, water and sewer systems to J. B. McCrary Co., Atlanta, Ga. About $60,000.

★**Ky., Murray**—City let contract to La Verne Supply Co., for water-works improvements and electric-light plant. About $17,750.

Mich., Cadillac—City will build 1-story, 28 x 30-ft. pumping station by day labor. About $25,000. T. V. Stevens, city engr.

★**Neb., Imperial**—City let contract to P. N. Krause, Spencer, Ia., at $31,800, for water-works including well, pump and pumping house.

★**Cal., La Mesa**—Cuyamaca Water Co. let contract Eastwood multiple arch concrete dam impounding capacity 1,828,000 gal., to Sharp & Fellows Construction Co. About $100,000. J. S. Eastwood, des. engr., in charge construction.

★**Ont., Tecumseh**—Eau Claire Water-Works Co., Ltd., let contract well and intake to W. Newman, c/o R. W. Code, Bd. Trade Bldg., Windsor; pipe laying to E. Hill Bd. Trade Bldg., Windsor; supplying pipe, pumps, motor and installation of water-works system to Canadian Allis-Chalmers, Ltd., 212 King St., W. Toronto. About $20,000.

SEWERS

Proposed Work

Mass., Rockland—City plans to install sewerage system and disposal plant near Concord St. About $225,000. W. Worthington, Dedham, engr.

Mass., Stoughton—Town voted $75,000 bonds to install sewerage system.

N. Y., Niagara Falls—Council rejected bids received Mar. 27 sewer in upper milling district. New bids. About $100,000. W. B. Bennett, city engr.

N. Y., Syracuse—Council plans constructing sewer in Grand Ave. About $20,000. H. A. Allen, city engr.

N. J., Dover—City applied to State Bd. Health for permission to build sewerage system and sewage-disposal plant. Cost $200,000. E. J. Jenkins, city engr.

N. J., Millville—Dept. Parks and Pub. Property plans to install storm sewer that will carry off surface water in the eastern section of city. N. B. Wade, city engr. made plans.

N. J., Paulsboro—Boro Council making plans storm and sanitary sewerage system with treatment works. Remington & Vosburg, 6th and Market St., Camden, engrs.

N. J., Pitman—Borough authorized $50,000 bond issue for sewer system. Purchase of Pitman Water Co.'s plant planned, including improvements and extensions. Cost about $48,000.

Pa., Carbondale—City made plans sewage-disposal plant. About $60,000. C. Potts, 30 Church St., New York, engr.

Pa., Nanticoke—A. Starr, boro. engr., making revised plans sewer system.

Pa., West Chester—See "Water-Works."

Pa., Williamsport—See "Streets and Roads."

Pa., Sayre—City soon receives bids installing sewerage system and disposal plant. About $40,000. R. R. Fernow, Weightman Bldg., Phila., engr.

N. C., Belhaven—See "Water-Works."

S. C., Chesterfield—See "Water-Works."

S. C., Columbia—See "Streets and Roads."

Ga., Cairo—City voted $28,000 bonds for completion of sewerage system.

Ga., Swainsboro—Election to be held Apr. 24 to vote on $34,000 bonds for water-works and $16,000 for sewers.

Ala., Gadsden—City considering plans extending sewer system. About $25,000. E. Smith, city engr.

La., Monroe—See "Water-Works."

O., Barberton—City voted $250,000 bonds to install sewerage system and disposal plant. H. W. Alcorn, city engr.

O., Cleveland—City planning improvements to sewage-disposal plant consisting of completion of 58th St. plant, $500,000; west side sewers, $500,000; and other improvements totaling $2,300,000. R. Hoffman, city engr.

O., Cuyahoga Falls—City rejected bids installing about 5-mi. mains and lateral sanitary sewers including 12,000-cu.yd. excavation, 28,000-cu.yd. rock excavation, 24,000 lin.ft. vitrified pipe, 61 tons cast iron pipe, 90 manholes and 140-cu.yd. concrete. New bids. W. F. Williston, clk.

O., Mansfield—Town planning election to vote on $175,000 bonds for sewerage system.

O., Portsmouth—City plans bond issue of $10,000 for sanitary sewer laterals. P. T. Harper, city engr.

Ill., Mason City—City election held Apr. 17 to vote on $20,000 bonds for septic tank and outlet sewer for proposed sewer and drainage system.

Mich., Hamtramck—City voted $75,000 bonds to install sewerage system. J. Schultheis, city clk.

Mich., Muskegon Heights—City voted $110,000 bonds to install sewers and sewage-disposal plant. Hoad & Decker, Ann Arbor, engrs. Noted Feb. 8.

Ia., Davenport—City plans to build storm drain to be known as Rock Island St. storm drain system from 18th St. to Duck Creek, will also build storm drain in portion Valley St. About $60,000. T. Hooper, supt.

Ia., Sioux City—City plans to install sanitary sewer system. About $20,000. T. H. Johnson, city engr.

Minn., Atwater—City voted $24,000 bonds to install sewer.

Minn., Caledonia—Village plans sewerage system. D. C. Merlo, clk. J. F. Druar, engr., 312 Commercial Bldg., St. Paul, making surveys.

Minn., St. Paul—Council approved plans installing sewers in Charlton, Wyoming, Winona, Bradley and Clermont St. O. Claussen, city engr.

Kan., Wichita—City plans to build sewer No. 20. About $200,000. B. Wells, city engr.

S. D., Aberdeen—City to hold election Apr. 17 to vote on $200,000 bonds to install storm sewer system. F. Le Cocq, city engr.

S. D., Madison—City election Apr. 17 to vote on $50,000 bonds for improving sewerage system.

Tex., Austin—Election will soon be held to vote on $170,000 bonds for sewage-disposal plant. M. C. Wellborn, city engr.

Tex., Port Arthur—City Comm. adopted plans for extension of sewerage system. Bids on same, also for laying water mains will soon be asked. Work to be handled with recent bond issue of $180,000. C. L. Scherer, city engr.

Tex., Waco—See "Streets and Roads."

Okla., Alva—City soon receives bids installing sewers in Dist. Nos. 5, 6, 7, 8 and 9.

Sewers (Continued)

Okla., Enid—City making plans disposal plant including screening chamber, filter beds and about 2500-ft. 18-in. outfall sewer. Estimate $15,000. B. F. Lewis, engr.

Okla., Kingstown—Citizens planning bond issue for sewerage system.

Okla., Oklahoma—City Engineering Dept. made plans intercepting sewer to be built through southern section of city, about 4-mi. long, 4½-ft. diam., inside, at its beginning and enlarged to 7-ft. toward its mouth. Bonds for $200,000 voted for work. G. V. McClure, city engr.

Idaho, Nampa—City plans new sewer improvement district. About $33,000.

Idaho, Twin Falls—See "Water-Works."

Ariz., Globe—City is having plans prepared by Benham Engineering Co., Colcord Bldg., Oklahoma, to install sanitary mains and lateral sewer system, storm sewer, extend water-works and street paving. Cost about $750,000. Election soon to vote on bonds for same.

Ariz., Jerome—Citizens voted $40,000 bonds Mar. 20 for sewer system.

Wash., Ruston—Council plans to install trunk, sanitary and subsewers in Park Ave. J. P. Garrison, clk.

Cal., Fresno—C. C. Van Valkenburgh, Jr., city engr., making plans installing 64 blocks sewers in Arlington Heights, work includes, 30,000 ft. 6-in. pipe and 8000 ft. 8-in. pipe.

Cal., Los Angeles—City plans to install vitrified pipe sanitary sewer portion Woodlawn Ave. H. Hamlin, city engr.

Cal., Santa Barbara—State Bd. Health approved plans outfall sewer system to be installed in city involving 1500 ft. 33-in., 1000 ft. 30-in., 2500 ft. 20-in., 1500 ft. 16-in., 1000 ft. 12-in. and 1800 ft. 10-in. pipe, 15 manholes and disposal tanks. Election will soon be held to vote on $85,000 bonds for work. A. C. Hall, city clk. Olmsted & Gillelen, 1112 Hollingsworth Bldg., Los Angeles, engrs.

Cal., Stockton—City will soon let contract for building outfall sewer about 13,020 lin.ft. 36-in. redwood stave pipe, and 4614 lin.ft. vitr. clay pipe, cost, $56,622.

Bids Desired

Pa., Hanover—Until Apr. 23 by F. C. Rowe, secy. twp. comrs., 731 Hazel St., for sewage disposal works including Imhoff tank, sludge beds, sewage pumping stations and appurtenances. Boyle & Howe, twp. engrs. Clyde Potts, 30 Church St., New York, engr.

N. C., Beaufort—Until Apr. 20 for about 5 miles of sewers with electric pumping station. C. H. Bushall, city clk.

Minn., Winona—Until Apr. 23, for storm water sewer on Olmstead St. including inlets, manholes, connections, headwall and appurtenances.

Mont., Bozeman—Until Apr. 19, for 924 lin.ft. storm sewers 19- to 18-in. and 4200 sq.yd. standard bitulithic pavement. C. A. Spieth, city clk.

Cal., Oakland—Until Apr. 19 by L. W. Cummings, city clk., installing sewer in Wilbur St. P. E. Brown, city engr.

Ont., Toronto—Until Apr. 17 by city installing sewer portion Pape Ave.

Prices and Contracts Awarded

★Indicates award of contract.

★**N. J., Newark**—Bd. Works let contract Delavan Ave. sewer to F. D. Loffingwell, 469 Bloomfield Ave., Montclair, $33,393; Blanch St. sewer, Pasquale Mauriello, 122 Center St., Orange, $9417. Noted Apr. 5.

★**W. Va., Wellsburg**—City let contract to B. O. Cresap, Wellsburg, at $17,268 for trunk sewer.

★**W. Va., Wheeling**—City let contract installing trunk sewer to B. O. Cresop, Wheeling, $17,-268.

★**O., Coshocton**—City let contract sewers on 18 streets to Henderson Bros., Coshocton, about $46,000.

O., Leetonia—City received bids Mar. 19 for sewage-disposal plant from Wm. H. Ralston, Mt. Vernon, $18,406; J. C. Devine, Alliance, $21,403; Frank George, Youngstown, intercepting sewer only $19,419. C. E. Beard, engr.

★**Mich., Ann Arbor**—City let contract to Gessner Co., Toledo, at $25,918 for laying 15-in. water mains.

★**Ill., Decatur**—City let contract to Arthur Birt, at $41,920, for Staley Wabash sewer.

★**Ill., Oak Park**—City let contract sewer extension No. 499 to T. H. Ickhart, 205 South La Salle St., Chicago, $21,826.

★**Ia., Newton**—Council let contract to Turner Co., Des Moines, at $49,498 for laying 7 miles of sewers; Ward & Weightman, Sioux City, at $29,500 for 2 disposal plants.

★**Ia., Tama**—City let contract installing sewer to T. Carey, 106 Weston Bldg., Clinton, $11,000.

★**Ia., Wilton Center**—(Official)—City let contract mains and laterals for sewer system to Independent Constr. Co., Davenport, $23,429; disposal plant to Tschirgi & Sons, Cedar Rapids, $12,008.

★**Minn., Hopkins**—City let contract to Wm. Danforth, Germania Life Bldg., St. Paul at $36,500, for sewage system and disposal tank.

★**Minn., West Minneapolis**—(P. O. Hopkins) Village let contract sewerage system to W. Danforth, 707 Germania Life Bldg., St. Paul, $36,500.

★**Kan., Neodesha**—City let contract improving sewerage system to Mercer & Underwood, c/o J. J. Underwood, Springfield, Mo., $32,455.

★**Kan., Topeka**—City let contract to A. R. Stimson, Topeka, at about $30,000 for constructing 7-ft. circular sewer.

★**Neb., Fairbury**—City let contract sewer in storm and drainage dist. No. 4 to Roberts Constr. Co., Lincoln, $11,947.

★**Neb., Omaha**—City let contract installing Saddle Creek storm sewer to J. Jensen, 2421 Wirt St. About $16,640.

★**Idaho, Rupert**—City let contract sewer system to R. M. Bardson & Co., Pocatello, $74,741. Noted Apr. 5.

★**N. S., Halifax**—City let contract sewers to Cook Construction Co., Ltd., 335 Queenpool St. $70,000.

STRUCTURAL STEEL WORK

Proposed Work

Mass., Boston—City plans rebuilding Brookline Ave. bridge over Boston & Maine R.R. tracks leading to Fenway Park. About $55,000. A. B. Corthell, Boston, ch. engr.

Pa., West Chester—County and Phœnixville-Jefferson Traction Co., recently organized, plan bridge across Perkiomen Creek.

Tenn., Morristown—Southern R.R. plans replacing frame trestles between Morristown and Salisbury, N. C., distance of 228 mi. with steel and concrete structures. B. Hermann, Wash., D. C., ch. engr.

Ky., Marion—County defeated $100,000 bonds to build bridges and roads.

O., Hamilton—City plans bridge on Black St. F. E. Weaver, city engr.

O., Troy—County comrs. approved plans and estimates of L. P. Knoop, county engr., bridges as follows: No. 43 on Rd. 216; No. 14 Rd. 487; No. 16 Rd. 164; No. 10 Rd. 198; No. 8 Rd. 40; No. 17 Rd. 63; No. 29 Rd. 236; No. 16 Rd. 236; No. 6 Rd. 17 and No. 10 on Rd. 46.

Ind., Mishawaka—County Comrs. soon let contract bridge over St. Joseph River on Joseph St. About $85,000.

Ill., Pontiac—County voted $40,000 bonds to build new Mill St. bridge. About $46,220. R. W. Osborn, co. highway supt.

Ill., Urbana—Champaign and Vermillion Counties plan bridge over Middlefork of Vermillion River near county line. About $18,000. Address Clk. Champaign County, Urbana.

Ia., Boone—Minneapolis & St. Louis R.R. plans building viaduct. About $29,000. R. G. Kenly, Minneapolis, ch. engr.

Ia., Clinton—Bd. Supervs. plans 2 additional truss bridges.

Minn., Austin—County sold $200,000 bonds to build bridges.

Mo., Kansas City—H. Bryant, 601 R. A. Long Bldg., making plans 8- to 12-story, 97 x 127-ft., steel frame and rein.-con. store and theater building.

Tex., Center Point—City plans building 2 bridges over Guadlupe River.

Tex., Ft. Worth—County plans 2 bridges over Clear Fork of Trinity River at 2 points on road west of Ft. Worth. J. Childers, comr.

Idaho—State Senate passed bill appropriating $50,000 to build 5 steel bridges from 400 to 800 ft. long, over Snake River between Oregon State line and Bruneau bridge, about 125 mi.; estimate $150,000; one-third of which will be paid by State and one-third by counties which bridges connect. Address State Surv., Boise.

Wash., Mt. Vernon—W. E. Costello, co. engr., making plans improving Mt. Vernon bridge with 220-ft. steel span and piers. About $23,000. W. R. Arges, co. aud.

Cal., Colusa—Bd. supervs. plans rebuilding bridge between Colusa and Williams under supervision of State Highway Comn. About $20,000.

Cal., Fresno—Einstein Investment Co. plans steel frame and rein.-con., 75 x 150-ft. theater, Van Ness Ave. About $125,000. Coates & Travers, arch., making plans.

Cal., Santa Barbara—Bd. supervs. plans building Arroyo Hond and Refugio bridges. About $50,000.

Bids Desired

N. J., Elizabeth—(Official)—Until Apr. 23 new strauss bascule bridge over Elizabeth River, South Front St. Former bids rejected. J. L. Bauer, county engr.

Pa., Dowington—Until May 1 building [illegible] bridge. About $22,000. N. R. Rambo, West Chester, co. surv.

S. C., Camden—Until about May 1 by S. C. West, supervs., building 600- or 700-ft. rein.-con. bridge near Camden, steel with concrete piers. About $60,000.

Ill., Springfield—Until Apr. 11 by State Highway Comn. for building Indian Ford Bridge, about 2 mi. from London Mills, 1 140-ft. steel span and 1 35-ft. rein.-con. span, 18-ft. roadway; work includes 128,430 ft. structural steel and [illegible] lb. rein.-con. About $14,680.

Kan., Leavenworth—Until Apr. 20 by J. Verhees, county clk., building Endora Bridge.

Utah., Salt Lake City—(Official)—Until Apr. 16 by County Comrs. building 3 steel bridges over Little Cottonwood Creek, 2 in canyon and 1 on Gold City Rd. L. Hanchett, chn. bd. co. comrs.

Prices and Contracts Awarded

★Indicates award of contract.

★**Ky., Somerset**—County let contracts superstructures, 2 steel bridges over Pitman Creek as follows: to Virginia Bridge and Iron Co., Roanoke, Va.; substructures to Builders' Supply Co., Lexington, at $14,450 and $13,935 respectively.

REINFORCED CONCRETE

Proposed Work

N. Y., Camillus—Camillus Cutlery Co. making plans 3-story, 50 x 100-ft. rein.-con. factory. M. Mayer, pres. R. J. Reidpath & Son, Builders' Exchange, Buffalo, arch.

N. Y., New York—(Manhattan)—New York Edison Co., 149 East 26th St., having plans made 50 x 130-ft. rein.-con. building, 179th St. and Monterey Ave. About $100,000.

N. J., Elm—Central R.R. of New Jersey plans building concrete abutments and wing walls to bridge on Southern division. A. E. Owen, 143 Liberty St., New York, ch. engr.

Penn., Harrisburg—See "Structural Steel."

Va., Clifton Forge—Supt. Pub. Wks. soon receives bids 2-rein.-con. bridges, 240- and 161-ft. long respectively.

N. C., Rocky Mount—(Official)—National Bank of Rocky Mount has retained Milburn, Heister & Co., archt., Union Savings Bank Bldg., Wash., D. C., to make plans rein.-con. bank. About $100,000.

S. C., Camden—See "Structural Steel."

S. C., Newberry—Exchange Bank made plans 5-story, 58 x 60-ft., concrete bank and office building. About $50,000. Summer & Hemphill, Greenwood, arch.

Fla., Sarasota—H. L. Higel plans rebuilding Higelhurst Hotel, 3-story, concrete; also improve Siesta Hotel, about $50,000.

Tenn., Morristown—See "Structural Steel."

Mich., Dundee—See "Water-Works."

Mich., Holland—Contract will soon be let by Dept. Pub. Wks. for constructing 1,000,000 gal. capacity rein.-con. reservoir; cost $17,000. S. Williams, Ann Arbor, engr.

Illinois—See "Structural Steel."

Mont., Miles City—W. Armington and W. A. Clark, Billings, plan rein.-con. flour mill. About $60,000.

Mo., Kansas City—See "Structural Steel."

Okla., Waurika—County making plans concrete bridges over large streams. W. P. Harwell, Waurika, county comr. P. Emery, Topeka, Kan., engr.

Nev., Fallon—Bd. Educ. plans rein.-con. high school. About $75,000. Wilson & Eager, American National Bank Bldg., Monrovia, Cal., arch., making plans.

Ariz., Flagstaff—D. Babbitt and T. A. Riordan plan 4-story, 98 x 134-ft. rein.-con. hotel, store, and theater, Aspen Ave. and San Francisco St. Coxhead & Kennedy, arch., making plans.

Wash., Nisqually—J. Allen, state highway comr., making plans rein.-con. bridge, 275 ft. long, including approaches, over Nisqually River, on Pacific Highway. About $30,000.

Wash., Olympia—R. F. Wood, city engr., making plans concrete bridge on West 4th St. over Deschutes River. About $100,000.

Cal., Beverly Hills—Beverly Hills Hotel making plans 5-story rein.-con. frame and plaster addition. About $100,000. S. I. Anderson, mgr. W. J. Dodd and W. Richards, 609 Brockman Bldg., Los Angeles, archt. and engr.

Cal., Fresno—See "Structural Steel."

Cal., Los Angeles—M. McCoy Stamps, 1027 Lake St., plans 6-story, 50 x 150-ft. rein.-con. automobile supply and sales building, Santee St. Work to be done by day labor. About $60,000. F. A. Noyes, 505 Lankershim Bldg., arch.

Cal., Los Angeles—S. C. Ward, and associates, making plans 6-story, 115 x 150-ft. rein.-con. store and office, 7th and Hill St. About $150,000. W. J. Dodd & W. Richards, 609 Brockman Bldg., archt. and engr.

Reinforced Concrete (Continued)

Bids Desired

Pa., Downingtown—Until May 1 by County Clerk for stone bridge. About $22,000. N. R. Rambo, West Chester, surv.

Pa., Pottsville—(Official)—Until Apr. 16 J. E. Kantner, co. controller for building new rein.-con. Bridge No. 49 over Mill Creek on Hancock St. in boro St. Clair.

Ky., Hazard—Until May 15 by Blue Diamond Coal Co. for concrete tipple on 1st Creek. About $8000 or $10,000.

O., Lancaster—Until Apr. 19 by Bd. County Comrs. building 13 bridges, rein.-con. and stone.

Minn., Austin—Until Apr. 20 by County for rein.-con. bridge, concrete pile, 4 truss spans, 3005 ft. long, 18 ft. roadway, 28 ft. overall, concrete flooring also 101 bridges on 13 different routes. About $200,000. O. J. Simmons, co. clk.

Prices and Contracts Awarded

★Indicates award of contract.

★**N. Y., New York**—(Brooklyn)—Boorum & Pease Co. let contract 7-story rein-con. factory, 176-180 Front St. to Turner Construction Co., 244 Madison Ave., New York.

★**N. Y., Yonkers**—Bd. Supervs. let contract masonry and rein.-con. bridge over Bronx River, between Yonkers and Tuckahoe to Fagnani Bros., Tuckahoe, $16,355.

★**Pa., Pittsburgh**—(Official)—National Biscuit Co. let contract 7-story rein.-con. bakery plant including 2-story power plant, Penn Ave. and Lambert St. and Pennsylvania R.R., to Turner Construction Co., 244 Madison Ave., New York.

★**Mich., Dundee**—City let contract to J. C. Brooks, 462 4th Ave., Detroit, for 200,000 gal. concrete reservoir and 50,000 gal. steel tank and tower. Cost $35,000.

★**Ill., Sullivan**—County let contract rein.-con. bridge, Whitley Twp., to James & Thornton, Mattoon.

Ia., Marshalltown—(Official)—County received bids Mar. 26 for 95 rein.-con. bridges and culverts and 6 pony truss bridges to be built in various sections of county from T. J. Wagner, Swea City Group 1, $20,410; Cole Bros., Ames, Group 2, $21,920; Ingersoll & Stoufer, Marshalltown, Group 3, $28,665; M. O. Burnett, Muringo, Group 4, $30,710.

★**Nevada**—Salt Lake & Los Angeles Ry. let contract building several rein.-con. bridges and concrete abutments for steel bridges on its lines in this state to Houghton Construction Co., 503 Market St., San Francisco, $90,000.

Cal., Colusa — School — Colusa Union High School Dist. let contract 1-story rein.-con. to J. S. HANNAH, Williams Bldg., San Francisco, $76,150.

★**Cal., Los Angeles**—Ville de Paris Store let contract 6-story, rein.-con. department store, 7th and Olive St., to C. J. Kubach Co., 701 Merchants National Bank Bldg., $200,000.

STREETS AND ROADS

Proposed Work

Mass., Boston—City estimates cost improving portion Commonwealth Ave. at $80,000. E. F. Murphy, comr. pub. wks.

Mass., Boston—Bd. Street comrs. plan building streets in South and East Boston, Charleston, Brighton, West Roxbury, Dorchester, Roxbury, City Proper and Hyde Park. E. F. Murphy, comr. pub. wks.

Mass., Fitchburg—City plans to spend $65,000 paving streets during year. G. H. Chase, comr. sts. and eng.

Mass., Leominster—City plans paving 3000-sq.yd. on cement base, 17,000-sq.yd. heavy bituminous macadam, about $26,000; will also spend $42,000 for maintenance and new equipment for streets. J. W. Gates, city engr.

R. I., Providence—State Bd. Pub. Roads making plans building 25-mi. road. I. W. Patterson, engr.

N. Y., Rochester—City soon lets contract annual repairs to asphalt pavements. F. T. Elwood, city engr.

N. J., Asbury Park—City plans paving Kingsley St. About $20,000. G. W. Pittenger, street comr.

N. J., Collingswood—Contract will be let about June (not Mar. 1, as previously stated) to pave several streets, granite block on concrete foundation. About $150,000. J. C. Remington, Jr., Camden, boro. engr.

N. J., Jersey City—T. J. Wasser, county engr. making plans paving Newark Turnpike, granite block.

N. J., Morristown—City plans paving portion Maple Ave., amlesite. A. S. Pierson, city engr.

N. J., Newark—City plans paving Oriental Terrace, Oriental and Delevan Pl., brick; Mulberry St., granite block; Moen Pl., Arlington and Meeker Ave., South 10th and 11th St., asphalt. M. R. Sherrard, city engr.

N. J., Newark—See "Railways Steam and Electric."

N. J., New Brunswick—City comn. plans opening street under Pennsylvania R.R. elevation. About $62,000. A. Atkinson, city engr.

N. J., Paterson—G. Ferguson, county engr., making plans paving 3 mi. Lakeside Ave. along west side of Greenwood Lake from Cooley's bridge to New York State line, macadam. About $50,000.

N. J., South River—Bd. Freeholders, New Brunswick, plan improving portion Main St. About $90,000. A. B. Fox, co. engr.

N. J., Trenton—A. Harris, county engr. making plans repairing Trenton-Lawrenceville Rd., sheet asphalt.

Pa., Brownsville—Boro. plans grading, paving, 16-ft. wide, portions 2nd, Water and 18th St., brick on 1½-in. sand and 6-in. concrete, also building concrete curbs 6-in. thick 22-in. deep on 4-in. broken stone and gravel on same. T. A. Waggonner, boro. secy.

Pa., Erie—County comrs. plan building 152 mi. road. About $1,500,000.

Pa., Palmerton—Boro. plans paving Delaware Ave. About $90,000.

Pa., Phila.—Legislature appropriated $300,000 to build and improve suburban roads. C. Albright, city engr.

Pa., Smethport—County to let contract in summer building roads. Bonds for $750,000 voted for work.

Pa., South Bethlehem—City plans to spend $150,000 for paving various streets. R. M. Brady, city engr.

Pa., Tarentum—City plans paving portion 3rd Ave. and repaving portion 2nd Ave. A. Thompson, city engr.

Pa., Williamsport—City will sell $60,000 bonds resurfacing asphalt pavements and building several sewers. J. B. Otto, city engr.

Del., Wilmington—County Levy Court authorized appropriation of $30,000 to build roads.

Va., Richmond—Administration Bd. soon lets contract widening portion Hull St. and opening intersecting streets between Hull St. and Midlothian turnpike. C. E. Bolling, city engr.

W. Va., Fairmount—County voted $195,000 bonds to improve roads in Grant Dist.

N. C., Asheboro—County plans top soiling several roads. S. Stanton, co. surv.

S. C., Chester—County voted $450,000 bonds to build roads.

S. C., Laurens—County voted $300,000 bonds to build roads.

S. C., Walterboro—(Official)—County defeated $500,000 bond issue to build roads.

Ga., Atlanta—W. L. Gilbert chn. county bd. pub. wks., soon lets contract minimum of 300,000 gal. and maximum of 600,000 gal. road oil; minimum of 250 tons and maximum of 1000 tons asphalt; minimum of 10,000 bbls. and maximum of 50,000 bbls. of cement; and sand and crushed stone. W. A. Hansell, Jr. supt. highways.

Ga., Griffin—City to let contract about June 1 paving streets, brick, concrete or asphalt. Estimate $135,000. Solomon-Norcross Co., engr., Atlanta, making surveys.

Fla., Bartow—County voted $90,000 bonds to build roads in Hamilton Road and Bridge Dist.

Fla., Tavares—County plans to issue $62,000 bonds to build clay roads in Howey Special Road and Bridge Tax Dist. H. H. Duncan, clk.

Miss., Decatur—County sold $30,000 bonds to improve roads in Beat 1 and $12,000 bonds to build link of Mississippi Travelers' Highway between this county and Lauderdale County line.

Miss., Starkville—City plans to spend $15,000 paving streets.

Tenn., Greeneville — (Official) —County voted $510,000 bonds to extend improved road system. C. E. Colle, engr.

Tenn., Jonesboro—County voted $750,000 bonds to build roads.

Ky., Marion—See "Bridges."

Ky., Paducah—County plans to spend $300,000 on road and bridge work during year. Contract will probably be let about May 1.

O., Cleveland—County plans to spend $1,000,000 improving streets and roads. J. Manning, comr.

O., Dayton—City Comn. plans improving portion Illinois Ave. J. B. Harshman, clk.

O., Logan—County plans improving 6-mi. roads and plans to purchase road and culvert materials. E. Shaw, co. engr.

O., Sidney—City plans to improve portion Court and Water St. and Wapakoneta Ave. T. Blake, city engr.

O., Mt. Vernon—City plans to improve portion Wooster Ave. W. C. Anderson, city engr.

Mich., Mt. Clemens—County Rd. Comrs. plan 42.5-mi. road 9- to 16-ft. wide, slag or gravel base and gravel top. W. J. Lehner, engr.

Ill., Alton—City to let contract in May paving Belle Ave., concrete.

Ill., Chenoa—City soon receives bids street paving. About $22,000.

Ill., Mattoon—City plans paving 12,000-sq.yd. DeWitt Ave., cement filler and concrete base. J. A. Goltz, city engr.

Ill., Murphysboro—City lets contract in May, brick paving. About $140,000. R. A. Rollo, city engr.

N. D., Hettinger—County comrs. making plans building 100-mi. road.

Mo., Palmyra—County plans to spend $65,000 to improve roads. F. E. Robinson, asst. highway engr.

Tex., Amarillo—City voted $50,000 bonds to pave about 50 blocks. M. H. Hardin, city mgr.

Tex., Bay City—County voted $36,000 bonds to build shell roads in Matagordo-Wadsworth precinct.

Tex., Center Point—City voted $15,000 bonds grading and paving roads, also building 2 bridges over Guadalupe River.

Tex., Clarendon—(Official)—City retained H. E. Elrod, consult. engr. Interurban Bldg., Dallas, to make plans paving business section.

Tex., Orange—County plans election to vote on $500,000 bonds to build roads.

Tex., Quitman—County voted $218,000 bonds to improve roads, macadam. R. E. Morris, asst. highway engr.

Tex., Waco—City will hold election Mar. 7, to vote on $50,000 bonds to improve streets and install sewers. G. B. Gunley, city engr.

Okla., Frederick—County plans to pave 51 blocks, concrete. P. A. Little, co. engr.

Okla., Norman—County election Apr. 30 to vote on $18,000 bonds to build roads in Little River Township.

Okla., Norman—County election Apr. 30 to vote on $30,000 bonds to build roads in Norman Township.

Okla., Tishomingo—Garret Twp. voted $28,000 road bonds and Harris Twp. $14,000 road and bridge bonds. R. P. Smith, chmn. bd. comrs.

Idaho, Rexburg—City passed resolution to improve Dist. No. 9 by paving, sidewalks, etc. About $80,000.

Ariz., Globe—See "Sewers."

Wash., Everett—County plans paving bonded road No. 15, concrete.

Wash., Garfield—City plans grading principal streets and laying concrete sidewalks. About $20,000.

Wash., North Yakima—County comrs. plan election to vote on $1,500,000 bonds to build 100-mi. concrete roads and extend gravel roads. O. E. Brashears, county engr.

Wash., Sprague—City plans paving 12 blocks. About $30,000. Sawyer Bros., Spokane, engr.

—County comrs. rejected bids improving permanent highway No. 3. New bids. G. G. Harvey, co. engr.

Wash., Walla Walla—W. R. Rehorn, city engr., making plans paving several streets in residential section. About $18,000.

Cal., Calistoga—City plans paving Lincoln Ave. About $15,000. J. C. Adams, 375 Lincoln Ave., clk.

Cal., San Diego—City plans to spend $125,000 for concrete and asphalt pavement during year in city proper and also plans to spend $300,000 concrete pavement on Torry Pines Rd. to connect with state highway. G. Cromwell, city engr.

Ont., Guelph—Pub. Wks. Com. adopted estimates prepared by F. McArthur, city engr. as follows: Grading streets $6000; general street repair $2000; pavement repairs $30,250.

Ont., Welland—County Council appropriated $35,000 for road maintenance and $62,000 for construction this year. W. W. Brookfield, co. road supt.

Ont., Woodstock—County plans road improvements during year to cost $10,000. W. Forbes, 25 Light St., co. road supt.

Bids Desired

N. J., Camden—Until Apr. 16 by Common Council for repaving Broadway, belgian blocks, concrete foundation. L. E. Farnham, city engr.

N. J., Passaic—Until Apr. 18 by Bd. Freeholders improving Midvale and Greenwood Lake Rd., waterbound macadam. G. W. Botbyl, Paterson, clk.

Pa., Bradford—(Official)—Until Apr. 16 by E. C. Charlton, city clk., paving 7 streets, about 28,000 yd.; advertised in this issue.

O., Cambridge—(Official)—Until Apr. 24 by city paving 6000 sq.yd. Woodlawn Ave., brick on concrete base and stone curb. J. M. Hilley, city engr.

O., Celina—Reported desired until Apr. 16 building 7-mi. gravel or macadam roads. N. Hintin, engr.

Ind., New Albany—Until Apr. 21 by E. Dupaquier, county aud., for 7700-ft. road New Albany Twp.

Streets and Roads (Continued)

Ill., Kewanee—(Official)—Until Apr. 17 by Bd. Local Improv. paving 16,600-sq.yd., brick, 4-in. monolithic base; 28,165-sq.yd. asphaltic concrete, 5-in. concrete base with curbs and 3920-sq.yd. street railway paving. H. G. Stokes, city engr.

Mont., Bozeman—Until Apr. 19 by C. A. Spieth, city clk., paving and installing storm-sewers in Dist. No. 145, including 4200-sq.yd. bitulithic paving and 924 ft. 10- to 18-in. sewer. C. C. Widener, city engr.

Ark., Marianna—(Official)—Until Apr. 16 paving Poplar, Chestnut, Cemetery and Chestnut St., waterbound, bituminous or oiled macadam, about 7000 sq.yd. Herring & Schellhous, Forest City, engr.

Tex., Plainview—Until Apr. 16 by city for building streets. About $120,000. B. L. Spencer, secy. H. E. Elrod, Interurban Bldg., Dallas, engr.

Okla., Ardmore—Until Apr. 18 by Ardmore Oil Fields Transportation Co., at office of J. C. Field and Co., Engr., Ardmore, for building toll highway from Ardmore northwest extending to Healdton oil fields, about 30 mi. long. B. A. Simpson, pres.

Wash., Chehalis—(Official)—Until Apr. 20 by county for 2½-mi. 1 course concrete road, 16-ft. wide and 1-mi. 1 course concrete road, 8-ft. wide, including clearing, grading, hard surfacing, etc. About $45,000. J. D. Neville, county engr.

Wash., Colfax—Until Apr. 16 graveling 63,706.6-ft. permanent highway No. 12. J. M. McCaw, co. engr.

Wash., Everett—Until Apr. 23 by M. Weatherbee, co. aud., building bond road No. 18, concrete. About $30,500.

Prices and Contracts Awarded

★Indicates award of contract.

★**R. I., Wickford**—State Bd. Pub. Roads let contract 3-mi. bituminous roadway to A. D. Bridges & Son, Narragansett Pier, $69,000.

N. Y., Albany—(Official)—State Highway Comn., 55 Lancaster St., received low bids Apr. 6 repairing highways in various counties as follows: Repair Contract No. 1016, Rd. No. 119, Loudon, Part 2, Albany Co.: Belmar Contracting Co., Inc., Troy, $37,158; T. F. Shaughnessey, Albany, $35,660; Sewage Disposal and Water Plant Co., Schenectady, $39,000. Repair Contract No. 1020, Rd. Nos. 112, 225, 598 665, 705, 806, 5414, Chenango Co.: Griffin & Griffin, Norwich, $8589; Paddelford & King, Sherburne, $8805; Harris & Griffin, Norwich, $8848. Repair Contract No. 1037, Rd. Nos. 380 and 381, Cortland Co: McGreevey, McGuigan & Baum, Elmira, $40,593; Pathfinder Construction Co., Fulton, $40,986; Dale Engineering Co., Utica, $42,831. Repair Contract No. 1064, Rd. No. 568, Millbrook-Lithgow, Dutchess Co.: Roy J. Garofano, Amenia, $27,080. Repair Contract No. 1074, Rd. Nos. 272, 522, 584, 642, 645, 1061, Erie Co.: Richard Hopkins, Troy, $10,449. Repair Contract No. 1025, Rd. Nos. 186, 1148, 1164, 1225, 1226, 5427, Jefferson Co.: Pathfinder Construction, Inc., Fulton, $9149; Deflance Corporation, Ticonderoga, $9691; Richard Hopkins, Troy, $10,665. Repair Contract No. 1066, Rd. No. 6, Ridge, Part 1, Monroe Co.: Whitmore-Rauber & Vicinius, Inc., Rochester, $25,622; M. W. Wilbur, Rochester, $27,579. Repair Contract No. 1050, Rd. No. 100, Rochester-Webster, Part 3, Monroe Co.: Harry W. Roberts & Co., Utica, $16,214; John W. Davitt, Albany, $16,336. Repair Contract No. 1079, Rd. Nos. 140 and 271, Oneida Co.: Harry W Roberts & Co., Utica, $52,885; Dale Engineering Co., Utica, $54,293. Repair Contract No. 1071, Rd. Nos. 295, 296, 560, 561, 563, 1158, 5346, 5553, Oneida Co.: Deflance Corporation, Ticonderoga, $16,624; Dale Engineering Co., Utica, $18,910. Repair Contract No. 1038, Rd. No. 672, Syracuse-Bridgeport, Part 1, Onondaga Co.: F. A. Biggi, Albany, $22,876. Repair Contract No. 1039, Rd. Nos. 292 and 486, Onondaga Co.: F. A. Biggi, Albany, $32,132. Repair Contract No. 1041, Rd. Nos. 285 and 439, Rensselaer Co.: Deflance Corporation, Ticonderoga, $16,640; Richard Hopkins, Troy, $16,765; Flood & Van Wirt Co., Hudson Falls, $17,207. Repair Contract No. 1015, Rd. No. 788, South Schenectady-Mariaville-Schenectady Co.: J. J. Malloy, Schenectady, $28,688. Repair Contract No. 1056, Rd. No. 5043, Ithaca-Danby, Part 1, Tompkins Co.: Greenfield Construction Co., Hornell, $16,334; Patrick D. Conley Ithaca, $16,587; McGreevey, McGuigan & Baum, Construction Co., Elmira, $16,945.

N. Y., Albany—(Official)—State Highway Dept., 55 Lancaster St., received low bids Apr. 9 repairing public highways in various counties as follows: Repair Contract No. 1012, Road No. 41, Albany Co.: Sewage Disposal and Water Plant Co., Schenectady, $15,887; Belmar Contracting Co., Troy, $14,690. Repair Contract No. 1028, Roads Nos. 28, 357, 725, 1310, 5218, 1205 and 1210, Chemung and Yates Cos.: Atlantic Refining Co., Phila., $10,331. Repair Contract No. 1024, Road No. 64, Chenango Co.: T. D. Carter, Norwich, $20,153; N. E. Young, Jeffersonville, $20,923; Paddelford & King, Sherburne, $21,014. Repair Contract No. 1063, Road No. 552, Dutchess Co.: S. B. Van Wagonen, Inc., Rondout, $30,514. Repair Contract No. 1046, Road No. 1074, Essex Co.: W. L. Lawton, Glens Falls, $25,955. Repair Contract No. 1009, Roads Nos. 110 and 247, Fulton Co.: J. P. Dugan & Co., Inc., Amsterdam, $25,908. Repair Contract No. 1062, Roads Nos. 853, 1268, 5538, 714, 715, 1247, 1248, 5398, 1284, 854 and 5410, Genesee, Livingston, Monroe and Wyoming Cos.: Sweeney & Boland, Rochester, $13,870; J. J. Crouch, Rochester, $14,376; Ribstein-Holter Co., Inc., Rochester, $14,494. Repair Contract No. 1026, Roads Nos. 5327 and 5332, Lewis Co.: Pathfinder Construction Co., Inc., Fulton, $7172; R. Hopkins, Troy, $8186. Repair Contract No. 1048, Road No. 5302, Livingston Co., H. W. Roberts Co., Utica, $23,119; Whitmore-Rauber & Vicinius, Inc., Rochester, $27,138. Repair Contract No. 1007, Road No. 304, Montgomery Co.: J. P. Dugan & Co., Inc., Amsterdam, $37,076; Dale Engineering Co., Utica, $38,809. Repair Contract No. 1072, Roads Nos. 368, 369, 559, 839, 1157, 5521, 5558, Oneida Co.: Paddelford & King, Sherburne, $15,703; Deflance Corp., Ticonderoga, $17,708. Repair Contract No. 1029 Roads Nos. 315, 677, 678, 781, 934 and 1303, Otsego Co.: Harris & Griffin, Norwich, $5842; Griffin & Griffin, Norwich, $5857; Atlantic Refining Co., Phila., $5918. Repair Contract No. 1036, Road No. 1070, Onondaga Co.: Dale Engineering Co., Utica, $4171; Rossney Contracting Corp., Buffalo, $4431. Repair Contract No. 1017, Road No. 536, Rensselaer Co.: W. L. Lawton, Glens Falls, $32,407; Deflance Corp., Ticonderoga, $37,559. Repair Contract No. 1019, Roads Nos. 1215, 1234, 5444 and 5458, Schoharie Co.: Harris & Griffin, Norwich, $10,070; Atlantic Refining Co., Phila., $10,221; W. G. Fox, Saratoga, $10,327. Repair Contract No. 1057, Road No. 5208, Schuyler Co.: Holleran Bros., Elmira, $10,240; F. F. Murray, Rochester, $10,511. Repair Contract No. 1022, Roads Nos. 999, 1232, 5474, 5215, 5471, 72, 336, 338, 606, 5213, 5256, 5474, Schuyler, Tioga and Tompkins Co.: Atlantic Refining Co., Phila., $18,961. Repair Contract No. 1058, Road No. 231, Ulster Co.: DeGraff & Hogeboom, Inc., Kingston, $31,375; S. Beskin, Beacon, $31,757; G. E. Van Wagonen, Inc., Rondout, $32,374.

★**N. Y., Elmira**—City let contract paving 10,400-sq.yd. West Washington Ave., bitulithic with concrete curbs and 6800-sq.yd. South Walnut St. to Warren Bros. Co., Boston; 3160-sq.yd. West La France St., brick with concrete curbs, to Holleran Bros., Elmira.

N. Y., New York—(Manhattan)—(Official)—M. M. Marks, boro. pres., Room 2032 Municipal Bldg., received low bids Mar. 28, regulating and repaving portion of 5th St. from Asphalt Construction Co., Madison Ave. and 137th St., $56,893; portion 6th Ave. from Franklin Contracting Co., 52 Vanderbilt Ave., $45,927.

N. Y., New York—(Richmond)—(Official)—C. D. Van Name, Boro Pres., Boro Hall, St. George, New Brighton, S. I., received low bids paving 2 portions Amboy Rd. (a) and (b) from Uvalde Asphalt Paving Co., 1 Broadway, Manhattan, (a) $77,249, (b) $75,503; Union Paving Co., (b) $69,206; Eastern Asphalt Co., (b) $72,065.

★**Pa., Ebensburg**—County let contract for 660,000 brick required for rebuilding 1-mi. and 1862-ft. Crescent Pike, Munster Twp., to Patton Fire Clay Manufacturing Co., Patton, $21.50 per M.

★**Pa., Phila.**—Bureau City Property let contract laying or repairing Neuchatel or asphalt paving to H. L. Markland, 612 Lincoln Bldg.

★**Md., Baltimore**—Bd. Awards let contract improving 16 streets in northwestern and 15 in northwestern annexes to American Paving Co., Montbello Ave. and Jenkins Lane and Baltimore Asphalt Block and Tile Co., Monroe and Lorman St., at $1.81 and $1.78 per sq.yd. respectively.

★**Va., Norfolk**—(Official)—City let contract to Lawson Construction Co., paving 33,795-yd. sheet asphalt, $1.75 per yd., F. J. McGuire, 4000-yd. wood block, 6-in. base, class "A" oil and 520-yd. wood block 5-in. base, class "A" oil, $3.15 and $3.04 per yd., respectively.

★**N. C., Hamlet**—(Official)—Bd. Comrs. let contract 50,000 lin.ft. concrete curb and gutter, 25,000 sq.yd. sidewalks, 20,000 cu.yd. grading and necessary drainage to W. J. Galloway, Hamlet.

★**S. C., Clinton**—City let contract paving from 4- to 8-mi. sidewalks to G. C. Odiorne, Anniston, Ala.

★**S. C., Columbia**—(Official)—City let contract concrete sidewalks and storm drains to J. D. Lawrance, $13,000.

★**Fla., Palatka**—City let contract paving 6000-sq.yd. streets, vitrified brick, to Alabama Paving Co., Birmingham, Ala., $1.53 per yd.

Miss., Iuka—E. F. Parnell, Secy. co. comrs., let contract building 6-mi. gravel roads, 1st Dist. to H. D. Harvey & Co., Tupelo.

★**Tenn., Johnson City**—City let contract paving streets, asphalt, to Maury Construction Co., Knoxville. About $45,000.

O., Cleveland—County comrs. let contract paving new high level bridge, stone or granite block, Cleveland Trinidad Paving Co., 420 Lakeside Ave., $144,000.

★**O., Cleveland**—Bd. Control let contracts paving sidewalks as follows: West 110th St., Freshwater Construction Co., Madison Ave., $15,844; East 57th and Chadakoin St., Rieley Co., 348 Arcade, $13,626; Benham, Gay Oakfield Rexford, Holburn and East 124th St., O. J. Keach, 504 Eddy Rd., $28,054.

★**O., Findlay**—City let contract improving Putnam, College and Frazier St. to Johnson Construction Co., 115 South Dearborn St., Chicago, $15,540, $5974 and $6040 respectively.

★**Ind., Albion**—(Official)—County let contract paving 12-mi. brick roads to Crepe & Seaman, Goshen, $120,450.

★**Ind., Plymouth**—(Official)—County let contract gravel road to Becker & Enyart, Plymouth, $15,575.

★**Ind., Plymouth**—(Official)—County let contract Jacoby Rd. to T. H. Billinger, Plymouth, $14,500.

★**Ind., Salem**—(Official)—County let contract roads in Washington Twp. to J. C. Brown, Salem, $21,490.

★**Ind., South Bend**—County let contract Goshen-Middlebury Rd. to Cripe & Seaman, $32,900.

★**Ind., Vevay**—(Official)—County let contract improving highways to A. Beckman, Jr., Patriot, $11,188.

★**Ill., Galesburg**—Bd. Local Impvts. let contract paving Matthew and South St. to J. B. McAuley, Galesburg, $13,000.

★**Ill., Pontiac**—City let contract paving East 2nd and Moulton St. to R. Lobb & Sons, $15,900.

★**Ill., Springfield**—(Official)—State Highway Dept. let contract state-aid roads in counties as follows: Champaign County, brick, to C. A. Michael, Mattoon, $36,900; McLean County, earth, Cameron-Joyce & Co., Keokuk, Ia., $36,800; St. Clair County, waterbound macadam, C. H. Degenhardt, Alton, $19,976; Winnebago County, concrete, Hart & Page, Rockford, $21,358.

★**Ill., Streator**—Bd. Local Impvts. let contract paving Bronson St. and River Ave. to Jensen & Scheffer, Pekin, $41,913.

★**Ia., Audubon**—(Official)—City let contract paving various streets to M. L. Flynn Paving Co., Sioux City, $1.41 per sq.yd.

★**Ia., Avoca**—(Official)—Town let contract 18,000 lin.ft. curb and gutter, 27,000 sq.ft. curb and gutter, 27,000 sq.yd. paving and 2000 cu.yd. extra grading to Moore-Seig Construction Co., Waterloo, $60,000.

★**Ia., Oolwein**—City let contract paving 11,000-sq.yd. on various streets to Dearborn Construction Co., Waterloo, $25,740.

Minn., Eveleth—City lets contract in June paving streets. About $55,000 to $75,000. C. M. Dorway, city engr.

★**Minn., Glenwood**—(Official)—County let contract road jobs Nos. 2 to 7, to Studer & Marion, Excelsior, $21,135.

★**Kan., Council Grove**—(Official)—City let contract paving 19 blocks to E. W. Geiger Construction Co., Leavenworth, $28,000.

Mo., St. Louis—Bd. Pub. Wks. received low bids Mar. 30 improving portions of (a) Prather Ave., vitrified brick pavement, 6-in. concrete base; (b) Garner Ave., same material excepting concrete base; (c) Terry Ave., vitrified brick pavement, 5-in. concrete base and concrete curb; (d) St. Edward Ave., same material; (e) Thrush Ave., same material; (f) grading Oakland Ave., from T. Cavanaugh, (a) $20,916, (b) $14,030; F. F. McCormick, (a) $21,318, (b) $14,135, (c) $34,044, (d) $36,082, (e) $41,426; J. F. McMahon Construction Co., (b) $15,022, (e) $39,646; Perkinson Bros. Construction Co., Grand and Carter St., (c) $32,081, (d) $35,017; Skainka Construction Co., (c) $34,035, (d) $36,075, (e) $40,435; Fruin-Colnon Contracting Co., Merchants-Laclede Bldg., (f) $25,385; Webb Kunse Construction Co., (f) $28,575.

★**Ariz., Douglas**—City let contract paving 9th, 10th, 11th and 12th St. to Southern California Construction Co., Los Angeles, $287,716.

★**Wash., Ellensburg**—County let contract building 51-mi. permanent highway No. 3-B to Hunter Construction Co., Cle Elum, $13,974; permanent highway No. 2-C to O. S. Brown, Prosser, $19,530.

★**Wash., Everett**—(Official)—Bd. County Comrs. let contract paving proposition No. 10, Marysville-Arlington Rd., to H. J. Kaiser Paving Co., Everett, $104,844.

Wash., Everett—County let contract bonded road No. 15 to T. Ryan Construction Co., Seattle, $30,919.

Ore., St. Helens—County let contract Mist-Clatskanie Rd. to A. L. Clark, Rainer, $19,649.

Cal., Fresno—(Official)—City rejected bids for 5000 to 8000 gal. road oil. W. H. Ryan, city clk.

Cal., Long Beach—Bd. pub. wks. received low bids improving portions Anahein St. and Cedar Ave. from Fairchild-Gilmore-Wilton Co., Pacific Electric Bldg., Los Angeles, $50,976; and Bryant & Austin, 1650 Compton Ave., Los Angeles, $52,902.

★**Que., Hull**—City let contract paving streets to Ottawa Construction Co., Central Chambers, Ottawa, $100,000.

RAILWAYS

STEAM AND ELECTRIC

Proposed Work

Mass. **Worcester**—Worcester Consolidated Street Ry. plans to reconstruct its tracks and install new feed wires on Front St. during summer. About $30,000. H. C. Page, gen. mgr.

N. Y., **Albany**—R. H. Gillett and W. H. Schott, both of Albany, are reported interested in project to build from Albany to Pittsfield, Mass., 37½ mi. About $1,000,000.

N. Y., **Elmira**—Elmira Water, Light & R.R. Co., plans double tracks on portions Lake and Water Sts. About $40,000. F. H. Hill, Lake and Water Sts., gen. mgr.

N. Y., **Syracuse**—New York State Rys. (Syracuse Lines) plans extensions and improvements to system to cost $500,000. Work includes 5100-ft. new track; 20,000-ft. track replacements; rolling doors, Wolf St. car barn; electric equipment; block signal system, East Syracuse line and street paving. Also considering new car houses on Burnett St., about $125,000. B. E. Tilton, Gridley Bldg., gen. mgr.

N. J., Camden—Pennsylvania R.R. purchased site at 36th St. and River Rd. and plans spur to Delaware River front to connect with proposed bridge to Petty's Island. A. C. Shand, Broad St. Station, Phila., ch. engr.

Pa., Newville—Cumberland Ry. completed survey for 9-mi. line from Newville to Shippensburg. G. A. Plough, Carlisle, treas. and gen. mgr.

W. Va., Parkersburg—Monongahela Valley Traction Co. plans interurban line to connect Parkersburg, W. Va., and Marietta, O., with Fairmont, W. Va. Proposed line will run via New Martinsburg and Ohio River and be about 30 mi. ling. Company will use lines of Tyler Traction Co., running from New Martinsville to Sistersville, while extensions are being made. E. B. Moore, Fairmont, gen. mgr. and ch. engr.

Ky., Ashland—J. C. Vaughan, Richmond, interested in plan to raise $50,000 toward $100,000 already subscribed to build electric railway from Ashland to Russell, during summer, about 5 mi.

Ky., Hazard—Louisville & Nashville R.R. made surveys 10-mi. branch line from Hazard up Lotts Creek to develop coal lands. W. H. Courtenay, Louisville, ch. engr.

O., Blanchester—Cincinnati, Milford & Loveland Traction Co. plans extending line from Blanchester to Wilmington. J. Montgomery, Madisonville, gen. supt.

O., Lorain—Lorain, Ashland & Southern R.R. made plans removal of grade crossing over Broadway calling for track elevation and 16-ft. clearance. J. P. Ramsey, Ashland, supt. and ch. engr.

Wis., Green Bay—Green Bay & Eastern Ry. received certificate of convenience and necessity from Wisconsin Railroad Comn. for proposed line from Green Bay to Manitowoc and Sheboygan to be built early in summer. W. M. Willinger, Manitowoc, pres.

Kan., Wichita—Arkansas Valley Interurban Ry. applied to City Council for franchise to construct line in 19th St. W. J. Faulkner, 120 West 1st St., supt. and pur. agt.

Tex., Dallas—Missouri Kansas & Texas R.R. filed plans with city engr. for lowering Lemmon Ave., Cedar Spring Rd., and Fairmont or Maple Ave. and raising tracks for eliminating grade crossings in North Dallas. About $267,000. L. F. Lounbladh, Dallas, ch. engr.

Wash., Port Angeles—Port Angeles & Grays Harbor Ry. making surveys 130-mi. line from Port Angeles to Grays Harbor including grading and bridge work. Company may receive bids during next 3 months. About $4,500,000 or $5,000,000. J. W. Lindsay, Port Angeles, interested.

Wash., Seattle—C. E. Remsberg, secy., Port of Seattle Comn., soon lets contract single track belt line along East Marginal Way from Spokane St., about 4-mi. About $20,000.

Wash., Tacoma—A. Gronen, city comr. who is working with G. W. Rounds, gen. supt., Tacoma Railway and Power Co., 1319 A St., on proposed extension to present muncipal street railway across tide flats to plant of Todd Shipbuilding outside city limits, states double track will be needed. Cost will be $75,000 more than preliminary estimate.

Cal., San Diego—San Diego Electric Railway applied to City Council for franchise to lay tracks on portion 5th and Washington St. to effect cut-off between 2 lines. B. M. Warner, 209 Union Bldg., San Diego, gen. supt.

Sask., Saskatoon—Saskatoon Municipal Ry. plans to spend $19,640 to extend system and purchase equipment. G. D. Archibald, City Hall Saskatoon, supt.

Prices and Contracts Awarded

★Indicates award of contract.

★**Ala., Tannehill**—Southern Railway System let contract double tracking work on Alabama Great Southern Ry. (branch of Southern Railway System) from Tannehill (P. O. Green Pond) to M. M. Elkan, Macon, Ga.

★**La., Long Leaf**—Red River & Gulf R.R. let contract grading work on extension from Long Leaf through Rapides and Vernon parishes to Hornbeck on Kansas City Southern Ry., about 65 mi. to I. McGinnis, Alexandria and J. Moore & Son.

★**Ore., Prineville**—Prineville & Northern Ry. let contract grading line from Prineville to main line of Oregon Trunk R.R., 18½-mi., to E. T. & H. H. Johnson, Commercial Blk., Portland, $53,000.

EXCAVATION AND DREDGING

Proposed Work

Canal—N. J., Trenton—State soon lets contract constructing Bay Head Manasquan Sect. of state canal. Legislature appropriated $25,000 additional to $50,000 already appropriated.

Ditch—Ia., Idagrove—Bd. Supervs. rejected proposition to straighten Maple River north of here by constructing ditch 19 miles long. Cost, $25,000.

Drainage—Neb., Lincoln (Official)—Sanitary Dist. No. 1 rejected bids cleaning and deepening portion of channel of Salt Creek. Will readvertise.

Irrigation—Mont., Lewiston—D. Hilger and W. J. Winnett plan Flatwillow-Carney Land project to irrigate 90,000 acres. About $150,000.

Irrigation—Idaho, Twin Falls—J. H. Burkett, Twin Falls, retained to make plans for Settlers Irrigation Assn., which is being organized to irrigate 40,000 acres land between Hansen and Milner, Twin Falls County. Water would be obtained from Snake River by means of pumps. Cost including power plant, light and power, etc., $700,000. Sweeley & Sweeley, Attnys.

Irrigation—Ore., Klamath Falls—Klamath Irrigation Dist. applied to State Engr. for permission to divert 280-cu.ft. per second of waters of Klamath River for irrigation of 27,983 acres land near Lower Klamath Lake, Klamath County. Will reclaim land by levees to be built along banks of proposed canal. About $40,000.

Irrigation—Ore., Vale—Willow Creek-Alder Irrigation Dist. applied to A. Lewis, state engr., Salem, for permission to form irrigation district embracing 18,000 acres south of Vale, Mathews County.

Irrigation—Cal., El Centro—Col. W. H. Holabird, engr., 318 Land Title Bldg., Los Angeles, F. H. Merrill, and W. B. Baker, 911 Brockman Bldg., and others, planning bringing water from Whitewater River and other streams in San Jacinto Mountains into Coachella Valley for irrigation, and into Imperial Valley for domestic use; have also made surveys for dam in Morongo Valley to impound 109,000 acre-ft. and an open concrete and covered pipe canal 165 miles long, with hydro-electric plants along line for developing 40,000 hp; cost $10,800,000.

Bids Desired

Dredging—Fla., Jacksonville—Until Apr. 19 by Bd. Port Comrs. dredging and removal material dredged to depth of 22 ft. at Market St. pier. J. C. Odell, gen mgr.

Drainage—Ia., Winterset (Official)—Until Apr. 25 by C. D. Norman, co. audr. for tile drainage. Former bids rejected.

Prices and Contracts Awarded

★**Excavation—Pa., Moosic**—Delaware & Hudson Co. let contract 400,000 cu.yd. steam-shovel excavation (coal stripping) to Dick & Co., Hazleton.

★**Ditch—Ind., Columbia City**—(Official)—County let contract open work Blue River Ditch to Chapman Bros., Celina, O., $46,000; furnishing tile on banks of ditch to Krick-Tyndall Tile Co., Decatur, and Portland Drain Tile Co., Portland, $61,000.

★**Ditch—Minn., Redwood Falls**—County let contract Ditch No. 24 to E. D. Bar, Herman, Neb.

★**Irrigation—Wash., Otis Orchard**—Otis Orchard Irrigation Dist. let contract 28 mi. pipe line for irrigation system to O. N. Wolff & Co., Spokane, $60,000.

INDUSTRIAL WORKS

Proposed Work

R. I., Providence—Langher Manufacturing Co., 67 Clifford St. plans 2- and 3-story, 191 x 133-ft. brick, machine shop.

R. I., Providence—United Lace and Braid Manufacturing Co. plans 90 x 200-ft. addition. About $75,000. C. R. Makepeace, arch., making plans.

Conn., Oakville—Autotyre Co. made plans 4-story, 60 x 140-ft. factory. Fletcher-Thompson, Inc., Bridgeport, arch.

Conn., Torrington—Hendee Machine Co. made plans 2 additions, 4-story, 80 x 125-ft., 1 to be used as storehouse.

N. Y., Camillus—See "Reinforced Concrete."

N. Y., New York—(Brooklyn)—I. Friedland, 16 Court St., made plans 4-story, 100 x 100-ft. garage. About $100,000. P. Caplan, 16 Court St., arch.

—(Manhattan)—See "Reinforced Concrete."

—(Manhattan)—G. W. Left, Broome and Centre Sts., plans 7-story, 20 x 75-ft. factory, 398 Broome St. About $80,000. Foster & Gade, 15 West 38th St., archt.

—(Manhattan)—Washington Ice Co., 90 West St., plans plant 168th St. and Jumel Ave. About $110,000.

N. J., Camden—J. Campbell Soup Co. plans 5-story, factory. Ballinger & Perrot, arch., 17th and Arch St., Phila., soon receives bids.

Pa., Harrisburg—Publishing House of United Evangelical Church, 201 North 2nd St., made plans 2-story, 120 x 160-ft. factory, store and office building. About $150,000. Fahnestock & Raidabaugh, 401 Patriot Bldg., arch.

Pa., Phila.—Windsor Chocolate Co., 24th and Hamilton St., plans 4-story, 79 x 117-ft. addition. About $100,000.

Pa., Pittsburgh—H. B. Yardum, Jenkins Arcade, plans 6-story, 60 x 60-ft. garage. About $75,000. T. Scott, Benedum Trees Bldg., arch.

Md., Baltimore—Standard Grease Co., 1500 Continental Bldg., plans 3-story factory. About $100,000. P. S. Gilchrist, Charlotte, N. C., engr.

N. C., Roanoke Rapids—Roanoke Mills Co. plans mill addition, main mill will be 157 x 542-ft. About $630,000.

O., Cincinnati—Standard Oil Co., 313 Ohio Gas Bldg., Cleveland, soon receives bids oil plant. About $300,000. R. A. Tingle, 1400 State St., Cincinnati, local agt. Christian, Schwartzenberg & Gaede, 1900 Euclid Bldg., Cleveland, engr.

O., Cleveland—Rubber Goods Mfg. Co., plans 7-story, 80 x 200-ft. brick and concrete plant, Lisbon Ave. and Pensylvania R.R. About $200,000.

O., Whitehouse—Page Dairy Co., Wade and Knapp St., made plans 2-story, 60 x 120-ft. dairy plant. About $60,000. H. A. Page, pres.

Ill., Chicago—Acme Packing Co., 2226 South LaSalle St., plans 3-story, 50 x 123-ft. packing plant. About $40,000. Gardner & Lindberg, 140 South Dearborn St., arch and engr. soon receives bids.

—Illinois Smoked Meat Co., 2710 Poplar Ave., plans 3-story, 149 x 160-ft. packing plant. About $100,000. P. Gerhardt, 64 West Randolph St., archt., soon receives bids.

Ill., Chicago—Illinois Smoked Meat Co., 2710 Poplar Ave., plans 3-story, 149 x 160-ft. packing plant. About $100,000. P. Gerhardt, 64 West Randolph St., arch., soon receives bids.

Wis., Milwaukee—Cooperative Co., 781 14th St., plans oleomargarine factory, brick and concrete. About $50,000.

—Monarch Manufacturing Co., 79 Chicago St., made plans 5-story, 170 x 215-ft. plant. About $200,000. M. Tullgren & Sons, 1st National Bank Bldg., archt.

Ia., Des Moines—Sheuerman Bros., 8th and Market St., plans 4- or 5-story addition to factory. Proudfoot, Bird & Rawson, New Hubbell Bldg., arch., soon receives bids.

Ia., Sioux City—Chicago, Milwaukee & St. Paul Ry. plans 30 stall roundhouse, part of $1,000,000 terminal improvement. C. F. Loweth, Railway Exchange Bldg., Chicago, ch. engr.

Mont., Mills City—See "Reinforced Concrete."

Okla., Oklahoma City—Sifers Candy Co., Hutchinson, Kan., purchased site at 12th St. and Atchison, Topeka & Santa Fe. R.R. and will build candy factory. About $300,000.

Wash., North Yakima—Earl Fruit Co. retained W. W. De Veux, arch., Masonic Temple, to make plans 2-story, 75 x 140-ft. warehouse. About $70,000.

Cal., Alameda—Union Iron Works plans extending plant. About $5,000,000.

Prices and Contracts Awarded

★Indicates award of contract.

★**Vt., Burlington**—Vermont Milk Chocolate Co. let contract 1- 2- and 3-story concrete and brick factory to J. E. Cashman Co. Noted Apr. 5.

N. Y., New York—(Brooklyn)—See "Reinforced Concrete."

★**N. Y., Solvay**—Pass & Seymour let contract factory to H. D. Best Co., 52 Vanderbilt Ave., New York, $150,000. Noted Apr. 5.

★**Pa., Erie**—Erie Forge Co., 15th and Cascade St., let contract steel plant addition to Lackawanna Bridge Co., Buffalo, $1,000,000.

★**Pa., Phila.**—Atwater Kent Manufacturing Co., Stanton Ave., let contract addition to factory to Ward, Yardley Co., 1737 Filbert St., $75,000.

—Budd Manufacturing Co., Hunting Park and Wissahicken Ave., let contract factory to W. Moore Co., Commercial Trust Bldg., $55,000.

★**Pa., Rutherford**—Philadelphia & Reading Ry., let contract engine and power house to A. L. Carpart, H. Hale Bl., $50,000.

Pa., Pittsburgh—See "Reinforced Concrete."

Industrial Works (Continued)

★**Pa., Pittsburgh**—Hammond Packing Co., 301 Ferry St., let contract packing plant and storage warehouse to Blome, Sinck Co., 139 North Clark St., Chicago, $265,000.

★**Md., Baltimore**—Maryland Meter Works, Saratoga and North St., let contract addition to Deveraii-Spencer Co., 1007 Garrett Bldg.

★**Ky., Newport**—The Newport Rolling Mills let contract addition to D. Meinken, 2126 Western Ave., Cincinnati, $50,000.

★**Minn., Minneapolis**—Oldfield Motor Co., 2335 Central Ave., let contract aëroplane motor plant to J. J. Cooper, 715 Andrus Bldg., $150,000.

★**Kan., Kansas City**—Union Pacific Ry. let contract roundhouse, power house, coaling station and turntable pit, brick, concrete and steel, to G. A. Fuller Construction Co., 418 Dwight Bldg., Kansas City, Mo., $200,000.

★**Mo., St. Louis**—W. Pralle, 2200 East Fair Ave., let contract wholesale bakery plant to H. Luehmann, 3442 Iowa Ave., $50,000.

★**Wash., Tacoma**—Todd Shipbuilding Co. let contract plant on tide-flats to Hurley-Mason Co., Hoge Bldg., Seattle, $125,000.

★**Ore., Portland**—Rasmussen & Co. let contract warehouse and other additions on Sullivan's Gulch and East 11th St. to Bentley & Andrews, Bates Dock Bldg., $60,000.

Cal., Fresno—Universal Packing Co., let contract meat-packing plant, offices, garage, machine shops, etc., on State Highway and North Ave. to TREWHITT & SHIELDS, Fresno, $100,000.

Cal., Los Angeles—See "Reinforced Concrete."

Que., Montreal—Imperial Tobacco Co., 900 Antoine St., let contract extensions to factory to A. F. BYERS, 340 University St., $100,000.

Ont., Wallaceburg—Dominion Glass Co. let contract plant to A. GREGORY. About $50,000.

BUILDINGS

Proposed Work

N. H., Laconia—High School—School Dist. appropriated $125,000 to build. F. P. Tilton, member of bd.

N. H., Nashua—High School—Bd. Educ. making plans rebuilding high school recently destroyed by fire. About $200,000. W. T. Towner, 320 5th Ave., New York, Arch.

Mass., Springfield—Hotel—W. H. Burns, 387 Main St. made plans 4-story, 50 x 120-ft. About $100,000. Huestis & Huestis, 145 Chestnut St., arch.

Mass., Westboro—High School—Bd. Educ. made plans 2-story. About $60,000. T. F. Chapin, chn. school comn. Fuller & Delano Co., 44 Front St., Worcester, arch.

R. I., Central Falls—High School—City Council passed appropriation of $100,000 to build.

Conn., Fairfield—Schools—Bd. Educ. made plans 2 schools. S. H. Wheeler, chn. com. W. H. McLean, 110 Tremont St., Boston, arch.

Conn. Stamford—Hotel—H. Hoefer, Main St., made plans 5-story. About $75,000.

N. Y., Canastota—Public Building—Village plans 3-story, 87 x 105-ft. About $50,000. W. T. Towner, 110 Morningside Dr., New York, making plans.

N. Y., Castleton—High School—Bd. Educ. making plans 2-story. About $50,000. A. H. Folmsbee, pres. Loth & White, 150 State St., Albany, arch.

N. Y., Cohoes—School—Bd. Educ. making plans 2-story, Columbia and Bevan St. About $150,000. C. V. Merrick, 51 State St., Albany, cons. archt.

N. Y., Corinth—High School—Bd. Educ. retained Tooker & Marsh, archt. 101 Park Ave., New York, to make plans 2-story, brick. About $75,000 or $90,000. W. C. Randall, Pres.

N. Y., Cortland—Bank, Store and Office—Cortland Savings Bank made plans 4-story, 58 x 68-ft. About $100,000. G. P. Walrad, 111 Main St., pres. Holmes & Winslow, 110 West 40th St., New York, arch.

N. Y., Hilton—School—Bd. Educ. making plans 2-story, 104 x 130-ft. About $65,000. O. A. Green, Pres. C. Ade., 344 East Ave., Rochester, archt.

N. Y., Jamestown—Bank—Bank of Jamestown plans 6-story, 20 x 120-ft. Mowbray & Uffinger, 56 Liberty St., New York, making plans.

N. Y., New York—(Bronx)—Hospital—Bronx Maternity Hospital plans on Intervale Ave. and 165th St. About $100,000. A. Lewisohn, interested.

—Bank and Office—S. W. Barasch, 77 Ridge St., made plans 3-story, 22 x 50-ft. About $50,000. O. Lowinson, 366 5th Ave., archt.

—Manhattan)—Office and Loft—Collegiate Building Corp. plans 12-story office and 50 x 100-ft. loft, 8 West 48th St. About $250,000. H. P. Knowles, 52 Vanderbilt Ave., archt.

—(Manhattan)—School—Buckley School Building Co. plans 5-story, 38 x 92-ft., East 74th St. About $71,000. J. T. Simpson, Essex Bldg., Newark, N. J., archt.

N. Y., Poughkeepsie—Store—L. Platt & Co., Main St., making plans 5-story, brick, Main and Academy St. About $60,000. W. J. Beardsley, 49 Market St., archt.

N. Y., Solvay—Bank Solvay Bank, Milton Ave., made plans 4-story, 40 x 60-ft. Merrick & Randall, S. A. & K. Bldg., Syracuse, archt.

N. Y., Syracuse—Church—Methodist Episcopal Congregation, University Ave., approved plans new church on East Gennessee St. About $100,000. F. W. Revels, arch.

N. Y., Troy—Hospital—Troy Hospital making plans 2 additions. About $60,000. Pember & Campaigne, Troy, archt.

N. J., Asbury Park—Church—First Methodist Episcopal Congregation plans rebuilding. About $90,000.

N. J., Atlantic City—Apartment Hotel—J. Stafford, 1122 Chestnut St., Phila., will build 12-story, 125 x 195-ft. About $150,000. Clinton & Russell, 32 Liberty St., New York, arch.

N. J., Bayonne—High School—Bd. Education rejected bids. New bids. About $262,000.

N. J., Chelsea—(P. O. Atlantic City)—Oceanic Hotel Co. plans hotel sanitarium. About $1,000,000.

N. J., Jersey City—Fire House—City plans on Palisade Ave., Hudson City Sect. About $50,000. M. I. Fagan, City Clk.

N. J., New Brunswick—High School—Bd. Educ. plans on Livingston Ave., About $275,000.

N. J., Passaic—Church and School—Holy Rosary Congregation making plans, concrete and brick. J. F. Kelly, Post-Office Bldg., Arch.

N. J., Princeton—School—Bd. Educ. plans 2-story. About $50,000. J. W. F. Anderson, Cedar Grove, Pres. C. S. Adams, 1509 Arch St., Philadelphia, archt.

Pa., Abington—School—Twp. School Bd. plans election to vote on $50,000 bonds to build school.

Pa., Allentown—Hotel—M. E. Kern and D. G. Dery, owners Hotel Columbia, plan, new building on site of present hotel.

Pa., Boyertown—High School—Bd. Education election May 1 to vote on $75,000 bonds to build high school.

Pa., Lehighton—Club—Lehighton Lodge of Elks made plans. J. J. Howley, Trade Bank Bldg., Scranton, archt.

Pa., Nesquehoning—High School—Town plans. About $100,000.

Pa., Olney—School and Church—Olney Presbyterian Congregation soon to let contract 1-story, 82 x 96-ft. About $80,000. W. H. Wells, 22 Tabor Rd., pastor. Dehring, Okie & Ziegler, Bailey Bldg., Philadelphia, arch.

Pa., Philadelphia—University of Pennsylvania plans 2 additions. About $500,000. F. P. Graves, interested.

Pa., Phila.—Bank—Northwestern National Bank soon to let contract 1-story, 50 x 90-ft. About $200,000. C. Nice, Girard and Ridge Ave., cashier. P. Merz, Pennsylvania Bldg., arch.

Pa., Slatington—High School—Bd. Educ. making plans to rebuild high school recently destroyed by fire. About $75,000.

Pa., Swarthmore—School—Mary Lyon School plans 3-story, 40 x 200-ft., brick and stone addition. H. W. Sellers, Stephen Girard Bldg., Phila., archt.

Pa., Swissvale—High School—Bd. Educ. soon receives bids. About $150,000.

Wash., D. C.—(Official)—Club—Washington Athletic Club soon receives bids on New York Ave. and H St. About $650,000. Milburn, Heister & Co., Union Savings Bank Bldg., archt.

—Bank and Office—Commercial National Bank soon lets contract 9-story, 75 x 100-ft. A. G. Clapham, 14th and G St., N. W., pres. W. B. Wood, 816 Conn Ave., N. W., archt.

Va., Blacksburg—Administration—Virginia Polytechnic Institute plans 3-story 150 x 200-ft. About $50,000. J. D. Edgelstone, pres. Carneal & Johnson, Chamber of Commerce Bldg., Richmond, arch.

Va., Richmond—School—Bd. Educ. made plans 3-story, brick. About $134,000.

W. Va., Welch—Store—C. D. Brewster & Co., made plans, brick and concrete. About $40,000. Pedigo & Gary, Bluefield, archt.

N. C., Greensboro—Club—Y. W. C. A. plans. About $90,000. J. W. Petty, Chn. Com.

N. C., Henderson—(Official)—Bank—First National Bank of Henderson soon receives bids. About $60,000. Milburn, Heister & Co., Union Savings Bank Bldg., Wash., D. C., Arch.

S. C., Newberry—See "Reinforced Concrete."

Ga., Macon—Home—Masons of Georgia making plans. About $50,000. F. O. Miller, [illegible] Valley, interested.

Fla., Jacksonville—School—Bd. Educatio[illegible] making plans La Villa School. About $60,000. W. R. Ittner, Bd. Educ. Bldg., St. Louis, archt.

Fla., Sarasota—See "Reinforced Concrete."

Miss., Clarksville—Bank—Bank of Clarksville plans. About $50,000.

Miss., Tupelo—Hotel—Tupelo Hotel Co. plans brick. About $60,000.

La., Monroe—Schools—City voted $40,000 bonds to build 2 schools.

La., New Orleans—Hotel—A. Aschaffenburg and associates, plan 14-story on University Pl. Favrot & Livaudais, Title Guarantee Bldg., archts.

Tenn., Lewisburg—High School)—County plans election to vote on $70,000 bonds to build high school.

Tenn., Nashville—Library—Peabody College plans 3-story, 80 x 170-ft. About $150,000. E. L. Tilton, 52 Vanderbilt Ave., New York, archt.

Tenn., Trenton—High School—City voted $50,000 bonds to build high school.

Ky., Hopkinsville—Store—J. H. Anderson making plans 3-story, brick. J. Waller, archt.

Ky., Lebanon—School—Bd. Educ. made plans A. W. Myers, clk. C. C. & E. A. Weber, Citizens Bank Bldg., Cincinnati, arch.

Ky., Lexington—Hotel—B. Tracey plans to build hotel to be leased to Kearns, Brandt & Hegarty. About $80,000.

O., Akron—Church—Wabash Ave. Church of Christ Congregation plans. About $50,000.

O., Akron—Club House—Goodyear Rubber Co. plans 4-story on East Market St. About $150,000.

O., Arcanum—High School—City voted $50,500 bonds to build high school.

O., Canton—School—Bd. Educ. retained C. C. and A. L. Thayer, archts., New Castle, Pa., to make plans on Clarendon Ave., N. W. About $85,000.

O., Cleveland—Store and Office—A. & R. Realty Co. made plans 2-story, East 46th St. and Euclid Ave. About $60,000.

O., Cuyahoga Falls—Office and Store—Towner-Vaughan-Taylor Co. plans 4-story, Broad and Portage St.

O., Deshler—School—City will hold election Apr. 17 to vote on $60,000 bonds to build school.

O., Lima—(Official)—Store and Office—G. E. Bluem, 702 West North St., lets contract in about 3 weeks 5-story, 50 x 150-ft., brick, steel and concrete. About $85,000. A. De Curtins, Opera House Bk., arch.

O., Lima—Club—Loyal Order of Moose plans on West and North St. About $80,000.

O., Portsmouth—Church—United Brethren Congregation plans. About $50,000.

Mich., Detroit—St. Marks Methodist Congregation plans 5-story church to include gymnasium, swimming pools, dormitory, club and recreational rooms, on Jefferson and Garland Ave. About $100,000.

Mich., Flint—School Bd. Educ. making plans Malcomson & Higginbothham, Moffatt Bldg., Detroit, archt.

Mich., Howell—School—City voted $100,000 bonds to build central school.

Mich., Stambaugh—High School—Bd. Educ. plans. About $100,000.

Ill., Chicago—Club—Ridgemoor Country Club plans. About $50,000. F. G. Walker, 4712 Beacon St., Arch.

—Hotel—S. T. Cooper made plans 11-story, 143 x 175-ft., Hyde Park Blvd. and 53rd St. About $1,250,000. H. L. Newhouse, 4630 Prairie Ave., archt.

Ill., Rockford—Club—Boys' Club plan. About $60,000. E. E. Smith, Gen. Chn.

Wis., Eau Claire—Hospital—Sacred Heart Hospital making plans addition. About $75,000.

Wis., Fond du Lac—(Official)—School—City defeated $60,000 bond issue to build schools. J. F. Hohensee, city clk.

Wis., Kenosha—Store—Epstein Bros. 209 Main St., plans concrete, brick and steel. About $175,000.

Wis., Racine—Armory—City plans 2-story, 100 x 120-ft. concrete and brick. About $50,000. C. A. Ryba, city clk.

Wis., Milwaukee—Store—H. A. J. Upham, 327 Wells Bldg., plans 2-story, 119 x 154-ft., Martin and Jefferson St. About $80,000.

Wis., Milwaukee—American Household Co. plans 5-story mercantile building, 19th St. and Fond du Lac Ave. About $65,000.

Wis., Mt. Horeb—High School—Bd. Educ. plans concrete, brick and hollow tile. About $75,000. Claude & Stark, arch., 8 South Carrol St., Madison, making plans.

Wis., Waukesha—High School—Bd. Education plans 140 x 150-ft. brick and tile. About $200,000. Van Ryn & De Gelleke, arch., 726 Caswell Blk., Milwaukee, made plans.

Ia., Davenport—Schools—City voted $450,000 bonds to build 3 schools.

Buildings (Continued)

Ia., **Des Moines**—Police Station and Court House—City plans at East 1st St. and Court Ave. H. Susong, city clerk.

Ia., **Des Moines**—Cathedral—Scottish Rite Masons plan, 5-story, 114 x 150-ft. stone and concrete. About $300,000. Keffer & Jones, 616 Youngerman Bldg., archt.

Ia., **Eddyville**—Church—Christian Science Congregation plans. About $75,000.

Ia., **Estherville**—Bank—First National Bank plans, 1-story, 44 x 80-ft. brick and stone. About $75,000. Lytle Co., 101 Masonic Bldg., Sioux City, archt.

Ia., **Fennimore**—City Hall—City plans. About $50,000.

Ia., **Mapleton**—School—Bd. Educ. Consolidated Dist. making plans 2-story, brick and stone. About $95,000. Trunk & Gordon, Donnell Court Bldg., St. Joseph, Mo., archt.

Ia., **Shenandoah**—High School—Bd. Educ. plans 2-story, brick and stone. About $100,000. Berlinghoff & Davis, 416 Security Mutual Life Bldg., Lincoln, Neb., archt.

Minn., **Aurora**—High School—Bd. Educ. receiving bids in April. About $125,000. Tyrie & Chapman, Auditorium Bldg., Minneapolis, archt.

Minn., **Grand Rapids**—Hospital—Itasca County retained F. H. Mosse & Co., Rochester, to make plans, 2-story. About $50,000. Contract soon to be let.

Minn., **Mineapolis**—Hospital—Norwegian Lutheran Deaconess Hospital plans wing to hospital, 2312 15th Ave., S. About $50,000. C. Morgan, 3319 18th Ave., S., pres.

Minn., **Minneapolis**—Office—Film Exchange, 416 North 4th St. plans 3-story addition. F. P. Nicoll, 703 Metropolitan Life Bldg., agt. V. F. B. de Brauwere, 824 Plymouth, archt.

Minn., **Moorhead**—Schools—City plans. About $225,000.

Minn., **St. Paul**—Church—St. Marks Congregation plans, Dayton and Moore Ave. About $100,000.

Kan., **Ft. Scott**—School—Bd. Educ. making plans 2-story, brick. About $90,000. W. F. Schmitt, 1634 West 10th St., Oklahoma, archt.

Kan., **Hutchinson**—Agricultural Hall—Kansas State Fair Asso. plans. About $50,000. C. H. Chandler, State House, Topeka, archt.

Kan., **Salina**—Salina Business College plans 2-story, 66 x 165-ft. building. About $80,000. O. S. Johnston, pres.

Neb., **Lincoln**—State Legislature appropriated $700,000 to build 1 wing of proposed new state house.

Neb., **Omaha**—Auditorium—Omaha Grocers' Asso. plans. About $65,000. J. J. Cameron, secy.

Neb., **York**—School—Bd. Educ. voted $225,000 bonds to build high school. Berlinghoff & Davis, Lincoln, archt.

S. D., **Tripp**—Court House—City election Apr. 17, to vote on $65,000 bonds to build court house.

N. D., **Fargo**—Grade School—Bd. Educ. soon lets contract. About $100,000. Haxby & Braseth, 113 Broadway, archt.

N. D., **Fargo**—High School—Bd. Educ. plans to rebuild Central High School recently destroyed by fire. About $250,000.

Mont., **Billings**—Office—L. Mains, and associates, plan 5-story on 1st Ave. and 27th St. About $150,000.

Mont., **Bozeman**—School—City plans election to vote on $95,000 bonds to build school.

Mont., **Deer Lodge**—High School—City soon sells $60,000 bonds to build high school.

Mont., **Libby**—School—Bd. Educ. making plans 3-story. About $50,000. Whitehouse & Price, Spokane, archt.

Mo., **Joplin**—Hospital—City plans to vote on $60,000 bond issue to build hospital.

Mo., **Kansas City**—See "Structural Steel."

Mo., **St. Louis**—School—Bd. Educ. receiving bids in April Hosmer Hall School, 3-story. About $80,000. F. J. Bradshaw, International Bldg., archt.

Mo., **Springfield** — Hospital — County plans. About $50,000.

Tex., **Beaumont**—Home—Y. M. C. A. soon lets contract, steel and concrete. About $65,000.

Tex., **Dallas**—Bank—American Exchange National Bank plans 16-story, Main St. and Scollard Ct. About $800,000.

Tex., **Eldorado**—Courthouse—Property owners voted $60,000 bonds to build court house.

Tex., **Ft. Worth**—Hotel—Westbrook Hotel plans 9-story addition. About $300,000. L. W. Huckins, Mgr.

Tex., **Hearne**—School—Property owners voted $50,000 bonds to build school.

Tex., **Sour Lake**—School—Bd. Educ. voted $80,000 bonds to build brick school.

Tex., **Waxahachie**—Bank and Office—Waxahachie National Bank plans 5-story, cement. About $150,000.

Okla., **Coalgate**—High School—Bd. Education making plans. About $50,000. Ye Planry, Inc., Dallas, archt.

Okla., **Enid**—High School—Bd. Educ. plans to vote on $50,000 bonds to build high school.

Okla., **Oklahoma**—Y. M. C. A. making plans 6- and 3-story, 100 x 130-ft. brick and stone. About $200,000. Hawk & Parr, 501 Security Bldg., archt.

Okla., **Sapulpa**—Office—Clayton Estate plans 4-story, 55 x 150-ft. brick and terra cotta. About $70,000. C. A. Popkin, archt.

Okla., **Tulsa**—Y. W. C. A. making plans 3-story brick building. About $200,000. C. K. Birdsall, 1002 Commerce Bldg., Kansas City, Mo., archt.

Okla., **Tulsa**—Office—J. S. Cosden, Daniels Bldg., soon receives bids 14-story, 60 x 100-ft., brick and terra cotta on 4th and Boston St. About $750,000. H. F. Hort, 315 East 10th St., Kansas City, Mo., archt.

Okla., **Tulsa**—Theater—W. M. Smith making plans 80 x 150-ft. brick and concrete. About $150,000. G. Winkler, 414 Palace Bldg., archt.

Okla., **Vinita**—Church—Methodist Congregation plans. 60 x 145-ft., brick and stone. About $40,000. Hawk & Parr, Oklahoma, archts.

N. M., **Gallup**—School—City will hold election Apr. 17 to vote on $50,000 bonds to build schools.

Idaho, **Lava Hot Springs**—Hotel—W. R. Godfrey plans. About $50,000. C. B. Onderdonk, archt., Pocatello, making plans.

Nev., **Fallon**—High School—See "Reinforced Concrete."

Ariz., **Flagstaff**—See "Reinforced Concrete."

Ariz., **Glendale**—Grammar School—City voted $50,000 bonds to build grammar school.

Ariz., **Nogales**—Depot—Southern Pacific Co. plans. About $50,000. W. Hood, San Francisco, ch. engr.

Ariz., **Phoenix**—Exhibition—State plans Palace of Industrial Arts for permanent exhibit purposes. McGee & Crowell, archs., O'Neil Bldg., made preliminary plans. About $125,000.

Wash., **Aberdeen**—School—Bd. Educ. plans. About $60,000. E. C. Troutman, Aberdeen, archt.

Wash., **Spokane**—Schools—School Bd. having plans made to build several schools during summer. About $260,000.

Wash., **Tacoma**—Hotel—C. A. Murray plans. About $150,000. Heath & Gove, National Realty Bldg., archt.

Cal., **Fresno**—See 'Structural Steel."

Calif., **Lodi**—Theatre—Lodi Investment Co. plans. About $60,000.

Cal., **Los Angeles**—Store—See "Reinforced Concrete."

Calif., **Los Angeles**—I. W. Van Nuys, San Francisco, retained Morgan, Walls & Morgan, 1156 Van Nuys Bldg., to make plans 4-story, 150 x 175-ft. mercantile building 7th St. between Grand Ave. and Hope St.

N. S., **Halifax**—School—Bd. Educ. plans. About $125,000. S. J. Wilson, 81 Sackville St., secy. W. J. Busch, 60 Bedford Rd., archt.

Bids Desired

O., **Galion**—High School—Until Apr. 20 by Bd. Educ., 2-story. About $120,000. C. C. Coyle, clk. Howard & Merriam, 8 East Broad St., Columbus, archt.

Neb., **Omaha—School**—Until Apr. 19 by Bd. Educ.; 2-story, 67 x 101-ft., brick and stone. About $50,000. W. T. Bourke, secy.

Mo., **Fulton**—Chapel—Reported desired after May 15 by Westminster College. About $55,000. Holmes & Flinn, 8 South Dearborn St., Chicago, archt.

Mo., **Kahoka**—High School—Until Apr. 23 by Bd. Educ. for 3-story, 59 x 124-ft. brick and stone. About $50,000. J. N. Woodruff, secy.

Va., **Claremont**—School—Until Apr. 21 by Bd. Educ.; brick. B. W. Shaw, secy.

Prices and Contracts Awarded

Conn., **Willimantic**—Business Block—Jordan Bros received low bids on Main St. from Torrington Building Co., 197 Water St., Torrington, $134,578, T. J. Pardy Construction Co., 265 Nichols St., Bridgeport, $134,886, J. H. Grosier Co., 721 Main St., Hartford, $135,419.

★N. Y., **Syracuse**—(Official)—State Fair Comm., 428 South Salina St., let general contract Horse Exhibit Building, to Feeney & Sheehan Building Co., State House, Albany, $74,800; structural steel to Syracuse Engineering Co., Inc., 124 Rosenbloom Block., $25,460.

★Pa., **Bethlehem**—School—School Bd. let contract to H. E. Stoudt, 116 2nd Ave., $56,063.

★Pa., **Exeter**—(Official)—High School Bd. Educ. let contract to A. Broslin, Summit Hill, $50,000.

★Pa., **Phila.**—(Official)—Library—City let contract main building of Free Library of Philadelphia to G. A. Fuller Co., 1130 Widener Bldg., $2,285,000.

—City let contract addition to Byberry Institution to E. F. Fonder, Land Title Bldg., $620,000.

★W. Va., **Huntington**—Hotel—J. S. Farr let contract to Ferro Concrete Co., Atlanta, Ga., $250,000.

★S. C., **Greenwood**—Church—Bldg. Com. Main St. Methodist Church let contract to C. L. Rounds, $50,000.

★Tenn., **Kingsport**—(Official)—Station—Carolina Clinchfield & Ohio Ry. let contract to A. L. Marshall, Roanoke, Va.

★O., **Cleveland**—Store—A. & B. Realty Co. let contract, Euclid Ave. and East 46th St., to J. R. Gloyd Construction Co., 715 Prospect Ave., $125,000. Noted Apr. 5.

★Ill., **Chicago**—Office and Theater—A. H. Woods Theatre Co. let contract 10-story, North Dearborn St., to Longacre Construction Co., 11 East 42nd St., New York, $100,000.

★Wis., **Racine**—Exchange—Wisconsin Telephone Co., let contract to P. Riesen Sons, 1018 Humboldt Ave., Milwaukee, $100,000.

★Ia., **Sergeant Bluff**—School—Bd. Educ. let contract 2-story, brick and stone, to Dubel & Anderson, 521 Jackson St., Sioux City, $75,000.

★Ia., **Sioux City**—Office—Davidson Realty Co. let contract 5-story, 125 x 150-ft., brick and rein.-con., to F. T. Houx & Son, 2nd and Water St., About $125,000.

★Ia., **Waukee**—High School—Bd. Educ. let contract 2-story, brick and cut stone, to Western Construction Co., Iowa City, $50,000.

★Minn., **Minneapolis**—Inter-City Realty and Loan Co., Swedish American Bank Bldg., St. Paul, let contract 3-story, 75 x 130-ft. to Fleischer Construction Co., Plymouth Bldg., $125,000.

★Kan., **Arkansas City**—High School—Bd. Educ. let contract addition and remodeling to Vandenberg & Pauley, Wichita, $80,000.

★N. D., **Crosby**—Jail and Courthouse—County let contract to Elson-Williams Construction Co., 830 Hennepin Ave., Minneapolis, $81,000.

★N. D., **Fargo**—Store—Smith, Follett & Crowl let contract 4-story, 50 x 108-ft. to T. Powers.

★Mont., **Poplar**—Office—Lohmiller Mortgage Loan Co. let contract to E. Olsen, $50,000.

★Mo., **Kansas City**—Theater, Store and Office—J. C. Wirthman let contract 2-story 30 x 90-ft. brick 31st St. and Troost Ave. to J. R. Vasant Construction Co., Kansas City, $250,000.

★Tex., **Denton**—Dormitory—Bd. Regents, State College of Industrial Arts, let contract to Buchanan & Gilder, 1309 Southwestern Life Bldg., Dallas, $124,000.

★Tex., **El Paso**—Store and Hotel—I. Laskin let contract 3-story to McGregor & Henger, Mills Bldg.

★Idaho, **Odaho Falls**—High School—Bd. Educ. let contract to North Pacific Construction Co., Pocatello, $47,825.

★Ark., **Little Rock**—Office and Lodge—A. O. U. W. let contract 10 story, to G. W. Fair, Little Rock.

★Cal., **Fresno**—Office and Bank—Bank of Italy, Montgomery and Clay St., San Francisco, let contract 8-story, 50 x 100-ft., rein.-con., steel and brick, on Tulare and J St., to R. L. Felchlin Co., Fresno, $225,000.

Cal., **San Francisco**—Hospital—St. Francis Hospital let contract 6-story, Bush and Hyde St., to P. R. Ward, 110 Jessie St., $93,900.

FEDERAL GOVERNMENT WORK

Proposed Work

Pumping Plant—Pa., Phila.—Bureau Yards and Docks, Navy Dept., Wash., plans for use at dry docks at Phila. and Norfolk Navy Yards. About $200,000 each.

Hospital Buildings—Wash., D. C.—Bureau Yards and Docks, Navy Dept. plans contagious wards at Naval Hospitals at Newport, R. I., Great Lakes, Ill., and Portsmouth, Va., estimated cost of all, $58,000.

Hangars—Fla., Pensacola—Bureau Yards and Docks, Navy Dept., Wash., plans hangars and erecting shops at Naval Aëronautical Station. About $240,000.

Crane, etc.—La., New Orleans—Bureau Yards and Docks, Navy Dept., Wash., plans 20-ton floating crane, cost, $30,000, and storage shed, $45,000.

Bids Desired

Launchway—R. I., Narragansett Pier—Until May 2 by Treasury Dept., U. S. Coast Guard, Wash., concrete and steel launchway at Station No. 54.

Rubble Mounds—N. Y., New York—Until May 3 by U. S. Engr. Office, Room 710 Army Bldg., 39 Whitehall St., for constructing in front of breakwaters, Plattsburgh Harbor, N. Y., and Burlington Harbor, Vt.; advertised in this issue.

Post Office—Pa., Media—Until May 8 by J. A. Wetmore, act. supervy. arch., Treasury Dept., Wash.

Hydraulic Pumps and Accumulators—Va., Norfolk—Until Apr. 23 by Bureau Yards and Docks, Navy Dept., Wash., for 2 motor-driven hydraulic pumps and 2 accumulators at Navy Yard, Norfolk, also 1 motor-driven hydraulic pump and 1 accumulator at Navy Yard, Phila. F. R. Harris, ch.

Prices and Contracts Awarded

★Indicates award of contract.

★**Buildings—Mass., Hingham**—Bureau Yards and Docks, Navy Dept., Wash., let contract to Kennedy & Peterson Construction Co., Winthrop Bldg., Boston, quarters for guards, $4750, 3 magazine buildings, 1 shellhouse and 1 storehouse, $147,200. Noted Apr. 5.

★**Post Office—Mass., Reading**—J. A. Wetmore, act. supervy. arch., Treasury Dept., Wash., let contract to J. Miles & Son Co., 393 Main St., Worcester, $49,688.

Buildings—N. Y., Buffalo—U. S. Engr. Office, Buffalo, rejected only bid received Mar. 15 office, storehouse and 6 operating houses at Black Rock Lock and storehouse at Ferry St. bridge.

★**Dry Dock—Pa., Phila.**—Bureau Yards and Docks, Navy Dept., Wash., let contract Dry Dock No. 3 to Maryland Dredging and Contracting Co., Fidelity Bldg., Baltimore, $2,300,000.

Shops—Pa., Phila.—Bureau Yards and Docks, Navy Dept., Wash., received bids machine and electrical shop, Phila. Navy Yard from McClintic-Marshall Co., Morris Bldg.; J. H. Miller, Inc., Eutaw & Franklin St., Baltimore; F. W. Mark Construction Co., Inc., Finance Bldg., Conners Bros. Co., 64 West 8th St., New York; P. F. Gormley Co., Union Trust Bldg., Wash.

★**Slips—Pa., Phila.**—Bureau Yards and Docks, Navy Dept., Wash., let contract shipbuilding slips Nos. 2 and 3 to Foundation Co., Woolworth Bldg., New York, $464,870.

Buildings—Wash., D. C.—Dist. Comrs., Room 509 Dist. Bldg., received low bids Mar. 30 fish market and appurtenant buildings on Water St. between 11th and 12th St., S. W., from Warren-Moore & Co., Commercial Trust Bldg., Phila., $115,544; Melton Construction Co., Real Estate Trust Bldg., Wash., $115,995; J. Henry Miller, Eutau and Franklin St., Inc., Baltimore, $119,700.

Iron Posts—Wash., D. C.—Dept. Interior, General Land Office, received low bids Apr. 4 furnishing and delivering (a) 50,000 small, (b) 25,000 large tubular iron posts with brass caps for public land survey corners for use during fiscal year 1918 from General Heating and Ventilating Co., Milwaukee, (a) $33,945, (b) $24,295; H. Bowmard Bronze Co., 20 Exchange Pl., New York, (a) $37,500, (b) $24,295; Gillete, Eaton & Squire, Lake City, Minn., (a) $39,225, (b) $28,340.

★**Power-Plant Equipment—Wash., D. C.**—Bureau Yards and Docks, Navy Dept. let contract in Navy Yard to W. G. Cornell Co., 923 12th St., N. W., $254,000.

Shipbuilding Slip—Va., Norfolk—Bureau Yards and Docks, Navy Dept. Wash., rejected bids. Noted Apr. 5.

Riprap Stone—Tenn., Memphis—Mississippi River Comm., U. S. Engr. Office, Custom House received low bids Mar. 19, about 25,000 tons, from Ward & Brown, Little Rock, Ark., $12,250; M. S. Park, Clarksdale, Ark., $13,500; Fitzgerald & Gately, St Louis, $11,750.

★**Horses and Props—Ky., Louisville**—U. S. Engr. Office let contract at Navigable Pass, Dam No. 43, Ohio River, to American Bridge Co. Union Trust Bldg., Cincinnati, $35,240.

★**Lock Gates—Mich., Detroit**—U. S. Engr. Office, Detroit, let contract steel lock gates for 4th lock, St. Marys Falls Canal, to Milwaukee Bridge Co. 1400 34th St. Milwaukee, $229,970. Noted Apr. 5.

★**Revetment—Mich., Grand Rapids**—U. S. Engr. Office let contract pile substructure and concrete superstructure north revetment at Ludington Harbor to N. P. Nelson, Muskegon, $19,499.

★**Revetment—Mich., Grand Rapids**—U. S. Engr. Office let contract repairing pile substructure and constructing concrete superstructure on north revetment at St. Joseph Harbor to A. M. Warner, St Joseph $16,245

Caisson Breakwater, etc.—Wis., Milwaukee—U. S. Engr. Office rejected bids opened Mar. 6 for caisson breakwater, pile pier, removing old timber crib pier, moving timber cribs and dredging at Racine Harbor.

Laterals—Wyo., Powell—Dept. Interior, Wash., received low bids Mar. 15 laterals involving 225,000-cu.yd. excavation on Shosone Project near station of Frannie Mantua and Garland on Chicago, Burlington & Quincy R.R., (a) Schedule 1, (b) Schedule 2, (c) Schedule 3, (d) Schedule 4, as follows: Lynn Bros., Lovell, (a) $7080, (b) $9688, (c) $19,560, (d) $12,170; Hayden Bros., Great Falls, Mont., (a) $9200, (b) $14,230, (c) $22,325, (d) $12,300; H. S. Jolley, Lovell, (a) $7670, (c) $19,840; N. O. Mortenson, Crowley, (d) $9440.

Jetty Work—Tex., Port Aransas—U. S. Engr. Office, Galveston, rejected bids opened Jan. 24.

MISCELLANEOUS

Proposed Work

Tipple—Ky., Hazard—See "Reinforced Concrete."

Parks—O., Cleveland—City planning park improvements; cost about $141,000. R. Hoffman, city engr.

Subway—O., Cleveland—City will hold election in November to vote on $5,000,000 bonds to extend high level bridge subway from West 6th St. and Superior Ave. to Public Sq. R. Hoffman, city engr.

Park—Mich., Manistique—(Official)—City defeated $12,000 bonds for park improvements.

Park—Kan., Independence—(Official)—City voted bonds to build. G. E. Weaver, city engr.

Dock—Wash., Bellingham—City voted $65,000 bonds to build dock on Pine St. Contract soon to be let. W. H. Norton, city engr.

Bids Desired

Station Platforms—Pa., Phila.—(Official)—Until Apr. 17 by W. S. Twining, dir. Dept. City Transit, 754 Bourse Bldg., additional steel superstructure and appurtenant work to provide station platforms on Frankford Elevated Ry. at Huntingdon St., Contract No. 520.

Road Roller—La., New Orleans—Until Apr. 17 by Comr. Pub. Finance, for gasoline road roller with pneumatic control scarifier attachment. W. J. Hardee, city engr.

Prices and Contracts Awarded

★Indicates award of contract.

★**Seawall—N. J., Longport**—Boro. let contract to Sutton & Carson and E. L. Bader, Atlantic City, $383,000. Noted Apr. 5.

★**Bulkhead—N. J., Trenton**—City Comn. let contract along Delaware River near Cherry St. to L. J. Sieling, Red Bank, $69,670.

Subway—Pa., Phila.—Dept. City Transit received low bids Broad St. Subway (a) Contract No. 103, (b) Contract No. 104, (c) Contract No. 204, from Philadelphia Subway Construction Co., 712 Lincoln Bldg., (a) $2,846,240, (b) $2,855,941, (c) $3,494,968; Smith, Hauser & MacIsaac Co., Inc., 18 East 41st St., New York, (a) $3,093,103, (b) $3,167,705, (c) $3,511,912; Keystone State Construction Co., Pennsylvania Bldg., (a) $2,815,490, (b) $2,917,320, (c) $3,336,400.

★**Turntable—Pa., Rutherford**—(P. O. Paxtang)—Rutherford Engine House Shop let contract to A. L. Carhart, at $18,000, for 100 ft. steel and conc. turntable.

Locomotive Crane—O., Cleveland—(Official)—City received low bid from Brown Hoisting Co., 1403 St. Clair Ave., N. E., $11,000.

★**Breakwater—Wis., Milwaukee**—City let contract 900-ft. additional at South Shore Park to E. E. Gillen Co. 1115 Wells Bldg.

★**Revetment—Wis., Milwaukee**—City let contract stone revetment work along lake front from Wisconsin St. to harbor entrance to Great Lakes Dredge and Dock Co., 491 Canal St., $140,000.

Proposals

For Proposals Advertised See Pages
35, 36, 37, 38, 39, 40

WATER-WORKS

Bids Close.		See Eng. News-Record.
Apr. 15.	Sherburne, N. Y.	Apr. 5
Apr. 17.	Salt Lake City, Utah	Apr. 5
Apr. 18.	Akron, O.	Apr. 5
Apr. 18.	Clovis, N. M.	Apr. 5
Apr. 23.	Rayne, La.	Apr. 5
Apr. 24.	Trenton, N. J.	Apr. 12
Apr. 25.	Westchester, Pa.	Apr. 12
Apr. 27.	Auburn, N. Y. Adv. Apr. 5.	Apr. 5
May 1.	Mendham, N. J.	Apr. 5

SEWERS

Apr. 16.	Los Angeles, Cal.	Apr. 5
Apr. 17.	Toronto, Ont.	Apr. 12
Apr. 19.	Oakland, Cal.	Apr. 12
Apr. 19.	Bozeman, Mont.	Apr. 12
Apr. 19.	Syracuse, N. Y. Adv. Apr. 5.	Apr. 5
Apr. 20.	Ada, Minn.	Apr. 5
Apr. 20.	Beaufort, N. C.	Apr. 12
Apr. 23.	Hanover, Pa.	Apr. 12
Apr. 23.	Winona, Minn.	Apr. 12
Apr. 24.	Barberton, O.	Apr. 5
Apr. 27.	Valparaiso, Ind.	Apr. 5

STRUCTURAL STEEL WORK

Apr. 16.	Coalinga, Cal.	Apr. 12
Apr. 30.	Leavenworth, Kan.	Apr. 12
Apr. 20.	Austin, Minn.	Apr. 12
Apr. 21.	Winchester, Ill.	Apr. 12
Apr. 23.	Elizabeth, N. J.	Apr. 12

REINFORCED CONCRETE

Apr. 19.	Lancaster, O.	Apr. 12
May 1.	Downington, Pa.	Apr. 12
May 15.	Hazard, Ky.	Apr. 12

STREETS AND ROADS

Apr. 14.	Ann Arbor, Mich.	Apr. 5
Apr. 15.	Plainview, Tex.	Apr. 5
Apr. 16.	Fairmont, W. Va. Adv. Apr. 5.	Apr. 5
Apr. 16.	Bradford, Pa.	Apr. 12
Apr. 16.	Plainview, Tex.	Apr. 12
Apr. 16.	Marianna, Ark.	Apr. 12
Apr. 16.	Colfax, Wash.	Apr. 12
Apr. 16.	Camden, N. J.	Apr. 12
Apr. 17.	Cudahy, Wis.	Apr. 5
Apr. 17.	Pittsburgh, Pa.	Apr. 5
Apr. 18.	Ardmore, Okla.	Apr. 12
Apr. 18.	Passaic, N. J.	Apr. 12
Apr. 19.	Bozeman, Mont.	Apr. 12
Apr. 20.	Beaufort, N. C.	Apr. 5
Apr. 20.	Elkins, N. C.	Apr. 5
Apr. 20.	Waukesha, Wis.	Apr. 5
Apr. 21.	New Albany, Ind.	Apr. 12
Apr. 21.	Morris, Minn.	Apr. 5
Apr. 23.	Everett, Wash.	Apr. 12
Apr. 23.	South Bethlehem, Pa. Adv. Apr. 5.	Apr. 5
Apr. 24.	Franklin, Va.	Apr. 5
Apr. 24.	Cambridge, O.	Apr. 12
Apr. 25.	Blue Earth, Minn.	Apr. 5
Apr. 25.	Alexandria, O.	Apr. 5
Apr. 30.	Grove Hill, Ala.	Apr. 5

EXCAVATION AND DREDGING

Apr. 24.	Parkertown, N. J.	Apr. 5
Apr. 25.	Winterset, Ia.	Apr. 12
May 1.	Quincy, Ill. Adv. Apr. 5.	Apr. 5

INDUSTRIAL WORKS

Apr. 15.	Phila., Pa.	Apr. 5

BUILDINGS

Apr. 15.	Kitchener, Ont.	Apr. 5
Apr. 16.	Ames, Ia.	Apr. 5
Apr. 17.	Whitesburg, Ky.	Apr. 5
Apr. 20.	Forsyth, Mont.	Apr. 5
Apr. 20.	Sacramento, Cal.	Apr. 5
Apr. 20.	Galion, O.	Apr. 12
Apr. 23.	Kahoka, Mo.	Apr. 12
May 15.	Fulton, Mo.	Apr. 12

FEDERAL GOVERNMENT WORK

Apr. 14.	Wash., D. C.	Apr. 5
Apr. 14.	Panama	Apr. 12
Apr. 16.	Wash., D. C. Adv. Apr. 5.	Apr. 5
Apr. 16.	Harbor Beach, Mich. Adv. Apr. 5.	Apr. 5
Apr. 18.	Seward, Alaska	Apr. 12
Apr. 20.	Panama	Apr. 12
Apr. 21.	Wash., D. C. Adv. Apr. 5.	Apr. 5
Apr. 23.	Norfolk, Va.	Apr. 12
Apr. 23.	Portland, Me. Adv. Apr. 5.	Apr. 5
Apr. 23.	Indian Head, Md.	Apr. 5
Apr. 23.	Indian Head, Md.	Apr. 12
Apr. 23.	Wash., D. C.	Apr. 5
Apr. 23.	Pensacola, Fla.	Apr. 5
Apr. 25.	Little Rock, Ark. Adv. Apr. 5.	Apr. 5
Apr. 27.	Portland, Me.	Apr. 5
Apr. 30.	Wheeling, W. Va. Adv. Apr. 5.	Apr. 5
Apr. 30.	Dallas, Tex. Adv. Apr. 5.	Apr. 5
Apr. 30.	Newport, R. I.	Apr. 12
Apr. 30.	Cape Charles, Va.	Apr. 12
May 1.	Sault Ste. Marie, Mich. Adv. Apr. 5.	Apr. 5
May 1.	Powell, Wyo. Adv. Apr. 5.	Apr. 5
May 2.	Narragansett Pier, R. I.	Apr. 12
May 3.	Port Huron, Mich. Adv. Apr. 5.	Apr. 5
May 3.	New York, N. Y.	Apr. 12
May 4.	Chattanooga, Tenn. Adv. Apr. 5.	Apr. 5
May 7.	Beaver Dam, Wis.	Apr. 5
May 7.	Pearl Harbor, Hawaii	Apr. 5
May 8.	Media Pa.	Apr. 12
May 11.	Boise, Idaho	Apr. 5
May 11.	Charleston, Pl.	Apr. 12
May 11.	Glenwood, Ia.	Apr. 12
May 14.	Fitzgerald, Ga.	Apr. 12
May 15.	Bolinas, Cal. Adv. Apr. 5.	Apr. 5
May 16.	Athens, Tenn.	Apr. 12
May 17.	Cedar Falls, Ia.	Apr. 12

MISCELLANEOUS

Apr. 17.	Phila., Pa.	Apr. 12
Apr. 17.	New Orleans	Apr. 12
Apr. 18.	New York, N. Y.	Apr. 5
Apr. 19.	Lebanon, Pa. Adv. Apr. 5.	Apr. 5
Apr. 23.	Stillwater, Minn.	Apr. 5
Apr. 25.	Pikeville, Ky.	Apr. 5
May 7.	Pine Bluff, Ark.	Apr. 5

BUILDING OPERATIONS FOR MARCH

Following is a list of contracts awarded published by the F. W. Dodge Co. for:

New York, New England, New Jersey, Pennsylvania, Maryland, Delaware, District of Columbia, Virginia, Ohio, West Virginia, Illinois, Indiana, Iowa, Wisconsin, Michigan, Minnesota, North and South Dakota, and portions of Missouri and eastern Kansas:

Contracts awarded January 1 to April 1,	1917	$318,785,000
" " " " " "	1916	223,645,000
" " " " " "	1915	167,637,300
" " " " " "	1914	149,032,000
" " " " " "	1913	196,788,000
" " " " " "	1912	154,413,500
" " " " " "	1911	173,904,313
" " " " " "	1910	172,922,809

NEW YORK STATE AND NORTHERN NEW JERSEY

Contracts awarded January 1 to April 1,	1917	$68,652,000
" " " " " "	1916	27,269,000
" " " " " "	1915	34,634,500
" " " " " "	1914	25,688,000
" " " " " "	1913	76,658,000
" " " " " "	1912	43,317,500
" " " " " "	1911	46,309,000
" " " " " "	1910	56,972,000

For the larger territory covered it is noticed that the three months of 1917 are ahead of any year for the past seven, the nearest one being 1916, which is $95,000,000 less than for this year. The smaller territory is ahead of all years but 1913, which was $8,000,000 larger than 1917 and $20,000,000 ahead of 1910, the next largest year. The contracts for the large territory awarded during 1917 total $132,744,000 against $95,192,000 in February and $90,849,000 in January. The smaller territory had contracts awarded during March totaling $26,424,000 against $20,370,000 in February and $21,858,000 in January. These figures show that whereas New York and New Jersey are in a prosperous condition, the Central States are away ahead of them proportionately over previous years.

PIPE, CINCINNATI, OHIO.

Bids were received by Dept. Pub. Ser. for laying cast-iron pipe in various streets during year from (A) J. J. Brown; (B) Cavanaugh & Co.; (C) J. Curley & Co. The item bids were as follows:

	A	B	C
1,000 lin.ft. 4-in. unimproved streets	$0.75	$0.40	$0.45
500 lin.ft. 4-in. water-bound macadam	.75	.40	.50
100 lin.ft. 4-in. special binder macadam	.75	.40	.60
100 lin.ft. 4-in. boulder paving	.75	.80	.60
100 lin.ft. 4-in. granite paving	.75	.80	.90
100 lin.ft. 4-in. brick paving	.75	1.00	1.00
100 lin.ft. 4-in. asphalt paving	1.00	.50	1.50
100 lin.ft. 4-in. wood block paving	1.00	.50	1.00
100 lin.ft. 4-in. unimproved sidewalk	.75	.40	.40
100 lin.ft. 4-in. cement sidewalk	1.00	.02	.50
100 lin.ft. 4-in. brick sidewalk	.75	.02	.50
20,000 lin.ft. 6-in. unimproved streets	.75	.65	.58
20,000 lin.ft. 6-in. water-bound macadam	.75	.65	.58
1,000 lin.ft. 6-in. special binder macadam	.75	.90	.80
200 lin.ft. 6-in. boulder paving	1.00	.95	.90
200 lin.ft. 6-in. granite paving	1.00	1.00	1.40
200 lin.ft. 6-in. brick paving	1.00	1.35	1.50
200 lin.ft. 6-in. asphalt paving	1.25	1.75	2.00
200 lin.ft. 6-in. wood block paving	1.25	1.35	1.75
200 lin.ft. 6-in. unimproved sidewalk	.75	.45	.50
200 lin.ft. 6-in. cement sidewalk	1.00	.02	1.25
200 lin.ft. 6-in. brick sidewalk	.75	.02	.90
1,000 lin.ft. 8-in. unimproved streets	.75	.80	.60
1,000 lin.ft. 8-in. water-bound macadam	.80	.75	.75
100 lin.ft. 8-in. special binder macadam	.75	.95	.90
100 lin.ft. 8-in. boulder paving	1.00	.75	1.00
100 lin.ft. 8-in. granite paving	1.00	.95	1.50
100 lin.ft. 8-in. brick paving	1.00	1.30	1.60
100 lin.ft. 8-in. asphalt paving	2.00	1.85	1.75
100 lin.ft. 8-in. wood block paving	2.00	1.40	1.80
100 lin.ft. 8-in. unimproved sidewalk	.75	.45	.60
100 lin.ft. 8-in. cement sidewalk	1.50	.02	1.40
100 lin.ft. 8-in. brick sidewalk	.85	.02	1.00
500 lin.ft. 10-in. unimproved streets	.80	.85	.70
500 lin.ft. 10-in. water-bound macadam	.90	.90	.85
200 lin.ft. 10-in. special binder macadam	.90	.90	1.00
100 lin.ft. 10-in. boulder paving	.90	.90	1.50
100 lin.ft. 10-in. granite paving	1.00	1.25	1.60
100 lin.ft. 10-in. brick paving	1.00	1.00	1.70
100 lin.ft. 10-in. asphalt paving	2.00	1.70	1.80
100 lin.ft. 10-in. wood block paving	2.00	.02	1.90
100 lin.ft. 10-in. unimproved sidewalk	.80	.50	.70
100 lin.ft. 10-in. cement sidewalk	1.20	.02	1.50
100 lin.ft. 10-in. brick sidewalk	1.00	.02	1.10
100 lin.ft. 12-in. unimproved streets	.90	.70	.90
100 lin.ft. 12-in. water-bound macadam	1.00	.90	1.10
100 lin.ft. 12-in. special binder macadam	1.00	.90	1.30
100 lin.ft. 12-in. boulder paving	1.00	.70	1.40
100 lin.ft. 12-in. granite paving	1.25	1.50	1.80
100 lin.ft. 12-in. brick paving	1.25	1.35	2.00
100 lin.ft. 12-in. asphalt paving	2.00	1.75	2.00
100 lin.ft. 12-in. wood block paving	2.00	1.25	2.20
100 lin.ft. 12-in. unimproved sidewalk	.90	.75	.90
100 lin.ft. 12-in. cement sidewalk	1.25	.02	1.75
100 lin.ft. 12-in. brick sidewalk	1.00	.02	1.40
500 cu.yd. additional excavation	.25	.02	1.00
1,000 cu.yd. rock excavation	.01	.02	1.00
400 cu.yd. brickwork	.01	15.00	15.00
150 cu.yd. concrete	.01	7.50	8.00
1,000 lb. steel	.01	.04	.25
1,500 tons hauling	1.00	2.00	1.00
500 lin.ft. removing existing mains	.25	.35	.20
100 lin.ft. changing ¾-in. branches	3.00	5.00	3.00
25 changing 1-in. branches	3.00	2.00	6.00
25 changing 1¼-in. branches	3.00	2.00	5.00
10 changing 2-in. branches	3.00	2.00	7.00
10 changing 3-in. branches	3.00	3.00	10.00
100 4, 6 and 8-in. valve chambers, complete	25.00	20.00	35.00
50 10 and 12-in. valve chambers, complete	30.00	25.00	40.00
10 16 and 20-in. valve chambers, complete	35.00	30.00	60.00
2 24-in. valve chambers, complete	1.00	35.00	75.00
Extended totals	$46,873	$48,971	$51,275

IRRIGATION, OTIS ORCHARD, WASH.

Bids were received by Otis Orchards Irrigation Dist. for improving distribution system from (A) H. Pederson Construction Co.; (B) J. A. Fletcher & Co.; (C) O. N. Wolfe & Co. The item bids were as follows:

	A	B	C
30,000 cu.yd. excavation and backfill	$0.35	$0.44	$0.57
20 ft. 6-in. steel pipe, in place	1.20	1.20	1.35
20 ft. 8-in. steel pipe, in place	1.60	1.60	1.80
60 ft. 10-in. steel pipe, in place	3.20	3.00	2.90
80 ft. 12-in. steel pipe, in place	3.70	3.50	3.65
20 ft. 15-in. steel pipe, in place	4.80	4.00	4.25
40 ft. 16-in. steel pipe, in place	5.25	4.50	4.50
100 6-in. delivery valves, in place	4.00	3.50	4.20
250 8-in. delivery valves, in place	5.00	5.00	5.00
10 8-in. sluice valves, in place	4.00	3.00	10.30
20 10-in. sluice valves, in place	5.00	3.50	11.25
10 12-in. sluice valves, in place	6.00	4.25	12.00
5 15-in. sluice valves, in place	10.00	10.00	16.50
1 18-in. sluice valve, in place	15.00	24.00	19.00
1,000 ft. 18-in. vertical pipe, in place	.75	.70	.88
400 ft. 24-in. vertical pipe, in place	1.25	1.10	1.37
Control Chamber, Complete			
14,000 ft. 6-in. No. 2 vitrified clay pipe, in place	.15	.171	.20
60,000 ft. 8-in. No. 2 vitrified clay pipe, in place	.20	.238	.27
33,000 ft. 10-in. No. 2 vitrified clay pipe, in place	.30	.315	.34
22,000 ft. 12-in. No. 2 vitrified clay pipe, in place	.42	.418	.44
14,000 ft. 15-in. No. 2 vitrified clay pipe, in place	.65	.647	.60
1,900 ft. 18-in. No. 2 vitrified clay pipe, in place	.93	1.26	.88
1,300 ft. 24-in. No. 2 vitrified clay pipe, in place	1.60	1.69	1.37
70 pieces, 6-in. vitrified clay pipe specials, in place	.60	1.00	.62
300 pieces, 8-in. vitrified clay pipe specials, in place	.82	1.50	1.83
120 pieces, 10-in. vitrified clay pipe specials, in place	1.10	2.00	2.86
70 pieces, 12-in. vitrified clay pipe specials, in place	1.60	2.50	1.87
40 pieces, 15-in. vitrified clay pipe specials, in place	2.60	4.00	2.88
5 pieces, 18-in. vitrified clay pipe specials, in place	3.25	6.00	3.25
5 pieces, 24-in. vitrified clay pipe specials, in place	6.50	8.00	6.50
14,000 ft. 6-in. concrete pipe, in place	.18	.139	.20
60,000 ft. 8-in. concrete pipe, in place	.25	.205	.27
33,000 ft. 10-in. concrete pipe, in place	.35	.274	.34
22,000 ft. 12-in. concrete pipe, in place	.44	.327	.44
14,000 ft. 15-in. concrete pipe, in place	.70	.578	.60
1,900 ft. 18-in. concrete pipe, in place	.85	.768	.88
1,300 ft. 24-in. concrete pipe, in place	1.50	1.312	1.37
70 pieces 6-in. concrete pipe specials, in place	.60	.90	.62
300 pieces 8-in. concrete pipe specials, in place	.82	1.10	1.83
120 pieces 10-in. concrete pipe specials, in place	1.10	1.50	2.86
70 pieces 12-in. concrete pipe specials, in place	1.60	2.00	1.87
40 pieces 15-in. concrete pipe specials, in place	2.60	1.12½	2.88
5 pieces 18-in. concrete pipe specials, in place	3.25	5.00	3.25
5 pieces 24-in. concrete pipe specials, in place	6.50	10.00	6.50
3,900 ft. 16-in. wood pipe, in place	.90	.75	.72
3,900 ft. 16-in. wood pipe, creosoted, in place	1.20	1.10	1.01
Extended totals clay pipe and wood pipe	$65,097	$71,184	$79,287
Extended totals concrete pipe and wood pipe	$71,025	$63,772	$79,287
Extended totals clay pipe and creosoted wood pipe	$66,267	$72,549	$80,418
Extended totals concrete pipe and creosoted wood pipe	$72,195	$65,136	$80,418

SEWER, NEZPERCE, IDAHO

Bids were received by city Mar. 7 for sewer system from (A) SECURITY BRIDGE CO., Lewiston National Bank, Lewiston (awarded contract); (B) G. A. Raven, 818 Mechanics Bldg., San Francisco; (C) Elliott Contract Co., 302 McKay Bldg., Portland; (D) W. L. Geist, St. Maries, $30,031; (E) G. M. Payne, 724 East Mission Ave., Spokane, $30,117; (F) Illinois Steel Bridge Co., Hutton Bldg., Spokane, $33,851; (G) J. A. Fletcher & Co., 823 Greene Bldg., Seattle, $39,397. The item bids of the 3 lowest bidders were as follows:

	A	B	C
16,000 lin.ft. of 8-in. vitrified pipe sewer in place	$0.65	$0.72	$0.70
5,500 lin.ft. of 10-in. vitrified pipe sewer in place	.69	.84	.80
1,200 lin.ft. 12-in. vitrified pipe sewer in place	.78	.90	.90
3,000 lin.ft. 15-in. vitrified pipe sewer in place	1.02	1.20	1.00
60 manholes complete	77.00	60.00	50.00
15 lampholes complete	6.00	8.00	20.00
5 flushtanks complete	110.00	90.00	150.00
Septic tank complete	2,248.00	3,000.00	3,000.00
700 cu.yds. of solid rock	4.00	1.00	3.00
Price per cu.yd. for extra or less trenching than shown	.65	.20	.50
Price per cu.yd. for extra or less concrete than shown	16.50	12.00	10.00
Extended totals	$28,499	$28,690	$28,830

BRIDGE, ANN ARBOR, MICH.

Bids were received by city for bridge over Huron River on Broadway, (1) with roadway paving, (2) without roadway paving, from (A) J. P. Rusche, Grand Rapids; (B) A. H. Prange, Grand Rapids; (C) B. Douglas Co., Ann Arbor; (D) Hackedorn Contracting Co., Indianapolis, (1) $60,958, (2) $59,856; Candler Dock and Dredge Co., Detroit, (1) $66,401, (2) $64,565; W. S. Newhall Co., Cleveland, (1) $68,227, (2) $66,697. The item bids of the 3 lowest bidders were as follows:

	A	B	C
1,312 cu.yd. excavation below 760 ft	$2.88	$5.00	$6.50
3,842 cu.yd. excavation above 760 ft	.60	2.50	1.00
1,717 cu.yd. concrete in piers and abuttments	7.80	7.50	11.40
67 cu.yd. concrete in wing walls	14.75	9.50	18.00
1,035 cu.yd. concrete in arches	24.70	16.50	19.15
92 cu.yd concrete in spandrel walls	18.85	20.00	25.00
18 cu.yd. concrete curbing	18.00	10.00	12.00
5,615 sq.ft. sidewalk	.12	.12	.15
477 lin.ft. railing	2.40	2.50	3.00
612 sq.yd. brick pavement	2.10	2.50	2.50
Lighting system (lump sum)	1,050.00	1,500.00	1,045.00
Roadway drainage (lump sum)	120.00	150.00	250.00
Removing old bridge (additional)			50.00
Removing old bridge (deduction)	700.00	200.00	
Extended totals with roadway paving	$51,661	$53,623	$60,734
Extended totals without roadway paving	50,376	52,093	59,204

RESERVOIR, ST. PAUL, MINN.

Bids were received by city for high service reservoir on Dale St. from (A) G. J. Grant Construction Co., 902 New York Life Bldg., St. Paul (awarded contract); (B) Winston Bros. Co., Wabash and Clifford St., St. Paul; (C) W. P. Cowles, 616 Flour Exchange, St. Paul; (D) Siems, Helmers & Schaffner, $266,520; (E) Thornton Bros Co., $267,863; (F) W. S. Hoy Co., $275,878. The item bids of the 3 lowest bidders were as follows:

	A	B	C
4½ acres clearing and grubbing	$80.00	$120.00	$49.00
90,620 cu.yd. earth excavation	.24	.29	.294
14,500 cu.yd. clay blanket under reservoir	.80	.81	.80
10,552 ton mi. sprinkling and rolling foundations and embankments	.30	.62	.39¼
1,700 cu.yd. backfilling outside of walls	.80	1.10	1.22
99,800 cu.yd. earth embankments and fill over structures	.52	.70	.39¼
4½ acres seeding	35.00	50.00	62.55
12,800 sq.yd. sodding	.25	.23½	.22
4,633 cu.yd. concrete inverted groined arch floor 1:2:4	4.52	5.90	5.64
3,831 cu.yd. concrete groined cloistered and barrel arch roof	9.67	5.90	10.88
2,580 cu.yd. concrete flat slab footings for outside walls	4.79	5.90	4.66
3,049 cu.yd. concrete outside wall-slabs and buttresses	7.72	5.90	8.46
2,734 cu.yd. concrete division or center wall	5.52	5.90	6.14
1,503 cu.yd. concrete columns	12.60	5.90	12.55
317 cu.yd. concrete conduits and sumps	11.63	5.90	9.81
617 cu.yd. concrete inlet and outlet gate chambers and aerator	9.07	5.90	10.18
95 sq.yd. concrete special finishing on floors	1.00	.58	.80
Steel reinforcement, ⅜-in. rods			
27,567 steel reinforcement, ½-in. rods		.01	.0092
154,383 lb. steel reinforcement, ⅝-in. rods		.01	.0092
579,332 lb. steel reinforcement, ¾-in. rods	.007⅛	.01	.0089
124,267 lb. steel reinforcement, 1-in. rods		.01	.0088
204,380 lb. steel reinforcement, 1-in. rods		.01	.0086¼
16,510 lb. miscellaneous steel and wrought iron work—iron 3,871 lb., steel 12,640 lb.	.13	.16	.104
650 lin.ft. copper and asphalt exp. lb. copper	.64	.779	.82
19,300 lin.ft. wooden expansion joints in footings, etc	.06	.035	.068
8 setting 48-in. circular flanged sluice gates	50.00	30.00	46.60
2 setting 48x48-in. spigot in concrete sluice gates	50.00	34.00	49.00
Setting 48-in. double hub gate valves	62.00	9.50	73.60
Setting 24-in. flanged gate valves	30.00	5.00	22.10
4 setting 6-in. double hub gate valves	10.00	2.50	5.00
1 ton spec. laying and erecting c.-i. pipe and 5 tons pipe specials, 6-in. to 20-in. diameter, inclusive	20.00	9.50	11.00
37 tons spec. laying and erecting c.-i. pipe and 105 tons pipe specials, 24-in. to 48-in. diameter, included	12.00 12.50 10.00	9.50 7.00 7.00	11.00 9.80 8.00
1 ton furnish and erecting c.-i. stop plank grooves	162.00	175.00	122.65
6,250 lb. furnish and erecting miscellaneous castings	.10	.13	.11
Extended totals	$246,054	$251,320	$254,091

Alaska Engineering Commission has established a branch office in Portland, Oregon, in the Customs House Building. Mr. J. J. Hittinger will be in charge of the new office.

Blaw Steel Construction Company announces the opening of their Boston office at 6 Beacon Street, Room 606. The office will be under the charge of Irving Burrows, who was formerly with their New York sales department.

Edelen and Company, a firm formed by T. J. Stone Edelen who was formerly with the Edelen Kilvert Company of Winnipeg, and John A. Conboy lately with the Standard Supply and Equipment Company have opened offices in the Commercial Trust Bldg., Philadelphia, Pa. This firm has the agency for the Red Concrete Mixers of the Chain Belt Company of Milwaukee, Wis.

Muller and Phipps (Asia) Limited, with headquarters at Englewood, N. J., have opened offices in Singaport, Strait Settlements, under the name of Muller, Phipps and Sellers, Limited, with H. A. Sellers, managing director.

Portland Cement Association has recently opened an office in the Northern Bank and Trust Building, Seattle, Wash., with C. N. Reitze in charge as district engineer.

L. S. Shaw & Company has been formed to deal in power-plant equipment, with offices in the Dime Bank Building, Detroit, Mich. Mr. L. S. Shaw, who heads the new firm, has had 15 years' experience in power-plant design, construction and equipment.

The General Machinery and Equipment Company, Ltd., recently opened offices in the Birks Building in Vancouver, B. C. The firm will handle a general line of contractors' and mining equipment along with railway supplies. Mr. J. MacKenzie is managing director of the concern.

The Traylor Engineering and Manufacturing Company, of Salt Lake City, Utah, has opened offices at Spokane, Wash., with C. H. Abeling, sales engineer and at El Paso, Tex., with Robert M. Peabody, sales engineer.

Troy trailers manufactured by the **Troy Wagon Works Company** and Kelly trucks have been adopted by the United States Circus Corporation to transport its show through New England, the East and the Middle West, this summer.

The Washington Pipe and Foundry Company, Tacoma, Wash., who manufacture machine banded and continuous wooden-stave pipe for water-works and power plants, have opened an office in the Woolworth Building, New York City.

The Westinghouse Electric and Maufacturing Company has purchased a plot of ground embracing 500 acres at Essington, near Philadelphia, Pa., on which will be constructed two large machine shops, an erecting shop for heavy machinery, forge shop, pattern and pattern-storage shop and power hourse, where will be employed several thousand people. The initial development will cost in the neighborhood of $5,000,000 or $6,000,000.

WAREHOUSE, HOUSTON, TEX.

Bids were received by City Council for warehouse from (A) AMERICAN CONSTRUCTION CO., Houston (awarded contract); (B) Holmboe Co., Oklahoma; (C) Horton & Horton; (D) W. L. Pearson & Co., Houston, $294,016; (E) H. G. Gass, Houston, $271,242. The item bids of the 3 lowest bidders were as follows:

	A	B	C
Building comp., less exc. (lump sum)	$247,000.00	$257,090.00	$254,284.00
4,000 cu.yd. excavation, Class 1	.30	.22	.22
6,000 cu.yd. excavation, Class 2	1.00	.49	.70
1,000 cu.yd. loading excavation material on cars	.15	.15	.10
400 lin.ft. 20-ft. concrete piles	1.00	1.25	.75
250 lin.ft. 25-ft. concrete piles	1.00	1.25	.75
280 lin.ft. 28-ft. concrete piles	1.00	1.25	.75
300 lin.ft. 30-ft. concrete piles	1.00	1.25	.75
10 cu.yd. extra concrete, Class 1	6.50	5.55	7.50
10 cu.yd. extra concrete, Class 2	7.00	5.65	8.50
10 cu.yd. extra concrete, Class 3	7.50	5.95	9.00
10 cu.yd. extra concrete, Class 4	7.25	5.80	9.50
10 cu.yd. extra concrete, Class 5	7.75	6.50	10.50
10 cu.yd. extra concrete, Class 6	10.50	8.65	12.50
10,000 lb. extra billet steel	.045	.04	.045
10,000 lb. rerolled steel in place	.041	.038	.04
2,000 lb. cast iron in place	.05	.047½	.06
2,000 lb. sundry iron, bolts, etc	.07	.05	.10
1,000 sq.ft. extra floor finish in place	.04	.032	.06
1,000 sq.ft. extra forms walls in place	.075	.05	.10
1,000 sq.ft. extra forms, beams and girders	.08	.08	.12
1,000 sq.ft. extra forms columns	.08	.09	.08
1 M extra dry pressed brick	25.00	35.00	22.00
10 square extra roofing in place	4.00	4.00	4.00
500 lb. extra flashing in place	.15	.15	.15
1 M b.m. extra dimen. lbr. in place	35.00	35.00	40.00
1,000 lb. extra metal lath in place	.12	.05	.12
5 square extra plastering concrete in place	5.50	6.60	7.00
100 lin.ft. extra corner beads in place	.10	.045	.10
100 lin.ft. extra c.-i. water pipe, 4-in., in place	.78	.75	.75
100 lin.ft. extra c.-i. water pipe, 6-in., in place	1.10	.90	1.10
100 lin.ft. extra c.-i. water pipe, 8-in., in place	1.50	1.20	1.60
100 lin.ft. extra galvanized w.i. water pipe, 1¼-in., in place	.32	.28	.30
100 lin.ft. extra galvanized w.i. water pipe, 2-in., in place	.42	.40	.40
100 lin.ft. extra galvanized w.i. water pipe, 3-in. in place	.85	.80	.80
100 lin.ft. extra cast iron soil pipe, 6-in., in place	.60	.45	.55
100 lin.ft. extra cast iron soil pipe, 4-in., in place	.45	.35	.42
100 lin.ft. extra sewer pipe in place, 6-in.	.25	.19	.18
100 lin.ft. extra sewer pipe in place, 8-in.	.34	.29	.28
100 lin.ft. extra sewer pipe in place, 10-in.	.44	.38	.38
100 lin.ft. extra sewer pipe in place, 12-in.	.55	.49	.50
100 lin.ft. extra sewer pipe in place, 15-in.	.90	.74	.79
100 lin.ft. extra sewer pipe in place, 18-in.	1.10	1.00	1.05
100 lin.ft. extra sewer pipe in place, 24-in.	1.90	1.80	1.80
5 extra type "B" inlet	23.00	30.00	22.50
1,000 man-hour extra labor unskilled	.30	.27	.40
1,000 man-hour extra labor carpenters	.70	.65	.65
100 man-hour extra labor struct. iron workers	.75	.65	.60
100 man-hour extra labor, plasters	1.00	.90	1.10
100 man-hour extra labor, bricklayers	1.00	.90	1.10
1,000 man-hour extra labor, painters	.65	.60	.565
1,000 man-hour extra labor, electricians	.70	.70	.90
1,000 team-hour extra team hours	.60	.55	.50
500 lin.ft. extra branch circuit complete	.22	.20	.20
10 extra ceiling outlet boxes	.60	.55	.65
40 extra bracket outlet boxes	.60	.55	.65
10 extra switch boxes	.70	.55	.75
10 extra circuit connections comp	10.00	10.50	11.10
Extended totals	$262,490	$268,883	$267,582

Bacharach Industrial Instrument Co. has removed its business from 14 Wood St. to 422 1st Ave., Pittsburgh, Pa.

Edison Portland Cement Co., 1133 Broadway, New York, N. Y., has removed its general offices to 8 West 40th St., New York.

George L. Hammons, Inc., engineers' supplies, factory equipment, etc., has opened an office and salesroom at 627 Washington Blvd., Chicago, Ill. The company will handle a line of specialties for the engineering trade and act as special representatives of the U. S. Asbestos Co. in Chicago.

The Canadian Railway Department is making considerable increases in the rolling stock of the government railways, 88 locomotives having so far been secured or ordered this year. The Canadian Locomotive Works of Kingston has delivered 30 heavy Mikado freight locomotives and has been awarded a contract for 20 more of the same type at $39,000 each, which is about double the price paid before the war. Ten Santa Fe mogul locomotives were also purchased at $36,486 each, delivered in bond at at Montreal and 28 second-hand engines have been secured from Transcontinental Ry. contractors.

"Preparedness Note"—The only large contract placed by the Navy Department this week was that for 100 submarine nets, awarded to the American Steel and Wire Co. at $188,100. Bids were received for the unpurchased balance of the 200 patrol boats (submarine chasers) from 129 different shipbuilding companies, with prices ranging from $20,000 to $80,000. Most of the bidders bid on four boats or less, only one bidder, the Peninsula Lumber Co., of Portland, Ore., bidding on a large number, in this case 140 boats at $60,000 each. A number of bids were received on the basis of cost plus a percentage ranging from 10 to 20%. It is probable that the Navy will be able to purchase as many boats as it needs from the various bidders on this contract.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATER-WORKS

Proposed Work

Mass., North Adams—City Council voted appropriation of $10,000 for extension to water mains. A. Conlon, supt.

N. Y., Rochester—City plans to construct 7,000,000-gal. reservoir in connection with water system at Kodak Park.

N. Y., Tonawanda—Citizens of North Tonawanda and Tonawanda voted $80,000 and $110,000 bonds respectively to enlarge lower intake mains in Niagara River.

Md., Brunswick—City voted $75,000 bonds for water-works.

Md., Frederick—City defeated $75,000 bonds for water-works.

Ga., Thomasville—City election May 8 to vote on $160,000 bonds for improving water and light plant, extending mains and paving streets and sidewalks. A. A. Riley, clk.

Fla., Smyrna—City voted $10,000 bonds for completion of water-works.

Ala., Birmingham—City plans building addition to water-works and power plant with $50,000 bonds recently voted. H. H. Horner, supt.

Ala., St. Bernards—City having plans prepared for water softening plant and improvements to power house, $90,000 bonds recently voted for this work.

Ala., Talladega—City sold $145,000 bonds to build water-works.

La., Monroe—City voted following bonds: $146,000 for filter plant and reconstruction of water-works; $60,000 surface drainage; $100,000 sanitary sewers; $61,000 for power house and improving of electric generating plant; $61,000 street improvements. Walter G. Kirkpatrick, Jackson, Miss., engr.

Tenn., Benton—City to issue $50,000 bonds for improving water-works.

O., Dayton—City soon lets contract 3-story, 17 x 17-ft. storm water pumping station, Germantown St., About $14,000. H. Collin, supt.

—City plans improvements to water-works. Metcalf & Eddy, 14 Beacon St., Boston, Mass, engrs.

O., Defiance—City considering installation of pure water supply system. C. Kuhn, supt.

O., Hubbard—City planning $12,000 bond issue for water-works.

O., Piqua—City ordered by State Bd. Health to install water purification system or new water supply. Contract will probably be let in July. W. Zimmerman, supt.

O., Sharon—City election May 15 to vote on $58,000 bonds for water-works.

Ind., Kendallville—See "Streets and Roads."

Mich., Lansing—Electric Light and Water Dept. plans to lay about 8-mi. water mains; cost $50,000. G Crane, mgr.

Mich., Mendon—City plans to install water-works. Cost, $17,000. A. D. Smith, 332 Nasby Bldg., Toledo, engr.

Ill., Joliet—City plans laying water mains and sewers in portions of Raynor and Whitney Aves. J. D. O'Callahan, city engr.

Wis., Strafford—Village will vote on $16,000 bonds for water-works.

Wis., West Allis—City retained Mead & Seastone, Madison, to assist E. G. Orbert, city engr. to prepare plans and submit estimate of cost of installing water system.

Ia., Marshalltown—City plans to build water-works. J. J. Wilson, city clk.

Ia., Oskaloosa—City plans building water-works.

Ia., Waverly—City voted in favor of issuing $15,000 bonds for water-works improvements.

Ia., West Point—City sold $15,000 bonds to build water-works.

Minn., Minneapolis—K. E. Alexander, city pur. agt., soon lets contract, furnishing at new filter plant, 8 12-in., 16 20-in., 8 24-in., 8 30-in. hydraulic gate valves; 8 20-in., and 2 each of 4- and 6-in. hand operated gate valves.

Kan., Caldwell—Town voted $80,000 bonds to improve water and light plant. F. O. Kerr, comr. pub. utilities.

Kan., Lawrence—City sold $15,000 bonds for water improvements.

Kan., Topeka—City plans sinking 3 wells at water-works, cost from $6000 to $10,000 each. J. Shaw, supt.

Neb., Scobey—Village defeated $19,000 bonds for water-works.

Wyo., Hudson—City sold $30,000 bonds for water improvements.

Mont., Helena—City plans to spend $20,000 extending water system.

Mo., Huntsville—See "Sewers."

Mo., Kansas City—City having plans prepared by W. B. Rollins & Co., engr., Midland Bldg., for water-works system; cost $20,000.

Mo., Kirksville—Election May 4 to vote on $118,000 bonds for improvements to water-works and electric-light plant.

Ark., Greenwood—Coal Dist. Power Co., Lawrence, planning building water-works at Greenwood, Booneville, Hartford, Huntington and Mansfield. H. Means, pres.

Tex., Corsicana—City election Apr. 30 to vote on $50,000 bonds for water system. Noted Apr. 5.

Okla., Bixby—City lets contract in June for water and sewerage systems. About $25,000 and $20,000 respectively.

Okla., Buffalo—City authorized $15,000 bond issue to build water system.

Okla., Okmulgee—See "Sewers."

Ariz., Wickenburg—City voted bonds to build water and light plant.

Wash., Seattle—See "Sewers."

Cal., Martinez—City plans to construct water-works and sewerage systems. Cost, $100,000. Olmsted & Gillelen, engrs., 1112 Hollingworth Bldg., Los Angeles, preparing plans.

Cal., San Diego—See "Reinforced Concrete."

Ont., Amherstburg—Brunner Mond Co. of Canada, subsidiary of Solvay Process Co. of Detroit, will install water-works plant for town on account of Provincial Bd. Health not allowing company to discharge its waste water above intake of present system, plans include filtration and purification plant.

Sask., Regina—City plans to construct pump house for Boggy Creek; cost, $10,000. J. R. Ellis, 2852 Rae St., act. engr.

Alta., Redcliffe—Town plans laying about 1 mi. 10-in. steel or c.i. pipe and install pumping plant.

Bids Desired

Wis., Milwaukee—(Official)—Until May 2 by Dept. Pub. Wks. for pumping engine; advertised in Apr. 12 issue.

Minn., Wadena—Until Apr. 23 by A. C. Murray, village clk., for water-works extensions, in all about 11,300 ft. 4- and 6-in. mains, hydrants, valves, etc. G. S. Hughes, supt.

Kan., Geuda Springs—(Official)—Until Apr. 23 by City for water-works system consisting of 13,500 ft. c.i. pipe, specials, valves, elevated tank, etc.; sewer system of 9000 ft. 8 and 10 in. vitr. pipe, manholes, etc. R. Ward, clk. Benham Eng. Co., Colcord Bldg., Oklahoma, engrs.

Prices and Contracts Awarded

(★Indicates award of contract)

★Mass., Boston—Edw. F. Murphy, comr. pub. wks., let contract, relaying water pipe on N. Grove St., to M. De Sisto, 198 La Grange St., West Roxbury; various streets in Brighton and Dorchester to J. Guarino & Son, 45 Brook Ave., Roxbury.

★N. Y., New Windsor—City let contract reservoir to Harper & Higginson, 56 2d St., $12,000.

N. Y., New York—C. Strauss, supt. water supply, Municipal Bldg., received low bids, cont. 176, furnishing and erecting about 3½ mi. spiral cloth or chain link wire fencing and about 1 mi. rein.-con. guard rail. at Hill View Reservoir, in Yonkers and Silver Lake Reservoir, Boro. Richmond, as follows: Lupfer & Remick, 595 Ellicott Sq., Buffalo, $57,310; Hyman & Goodman, $59,070; P. T. Cox., Co., 154 Nassau St., $66,530.

★N. J., Bayonne—City Comrs. let contract water mains in Hobart and Isabella Ave. and 5th and 6th St. to C. T. Kavanagh, West 23rd St., New York, $68,359.

O., Greenwich—(Official)—City received only bid improving water-works from Alger & Krans, 416 Guardian Bldg., Cleveland, $17,987.

★O., Lakewood—W. H. Evers, engr., Arcade Bldg., Cleveland, let contract water mains to C. Contose, 2478 East 95th, Cleveland.

★O., Mt. Vernon—Bd. Control let contract 1200 water meters to Gamon Meter Co., 282 South St., Newark, at $7.50 each.

★O., Ravenna—City let contract to B. C. Coit, Cumberland, Md., water-works improvements. F. S. Mallette, supt.

★Wis., Madison—Water Bd. let contract laying water mains to J. F. Icke, $18,752.

★Neb., Scotts Bluff—City let contract extending water system to J. S. Schwartz, Colorado Springs, $26,250.

Mont., Big Sandy—See "Sewers."

Cal., Los Angeles—See "Reinforced Concrete."

SEWERS

Proposed Work

Mass., Ludlow—City plans to construct sewerage system. C. E. Quinby, city engr.

Conn., Stratford—City plans to issue $125,000 bonds for sewerage system.

N. Y., Niagara Falls—City plans to lay sewers in portions of Buffalo Ave. W. B. Bennett, Convention Hall, engr.

N. J., Paulsboro—City plans sewerage system to consist of about 8 mi. 6- to 8-in. c.i. pipe; cost, $75,000.

N. J., Perth Amboy—See "Streets and Roads."

N. J., Stone Harbor—Council adopted plans for sewage disposal plant, cost, $12,000.

Pa., Morrisville—City plans building sewerage system and sewage disposal plant.

Pa., Newport—See "Streets and Roads."

Pa., Phila.—City plans new sewage-disposal plant at Frankford. C. Albright, city engr.

Ala., Lafayette—City will let contract about July 1 for sewerage system.

O., Cleveland—City plans to install sewer in portion Eastern Ave., S. E. R. Hoffman, city engr.

City plans to install vitrified pipe sewer in portion of East 133rd St. R. Hoffman, city engr.

O., Hillsboro—A. E. Kimberly, engr. estimates cost of installing sewers at $20,000 per mi., total not exceed $100,000.

O., Wilmington—City election Apr. 24 to vote on $75,000 bonds for sewerage system.

Mich., Escanaba—City voted in favor of $30,000 bond issue for new trunk line sewer from Ludington St. to sewage disposal plant. W. J. McDonald, city engr.

Mich., Grand Rapids—Bd. Pub. Wks. rejected bids for sewerage system. About $160,000.

Ill., Lombard—Bd. Local Improv. soon lets contract sewerage system consisting of 10,950 ft. rein.-con. pipe 30 to 54-in. 46,000 ft. tile pipe 12- to 24-in. manholes, catch basins, etc.; cost $165,000.

Wis., Kilbourn—Village adopted resolution to issue $20,000 bonds for sewerage system.

Wis., Osceola—City plans sanitary sewer and water supply systems. About $35,000. A. Ladd, city clk., L. P. Wolff, 1000 Germania Life Bldg., St. Paul, Minn., engr.

Ia., Coon Rapids—(Official)—Town retained C. E. Wilson, engr. Gamble Blk., Perry, to make plans sewerage system.

Ia., Grand Mound—City plans disposal plant and about 3 miles of sewers. Iowa Eng. Co., Chase Bldg., Clinton, engrs.

Minn., St. Paul—City will soon let contract sewers in Dunlay, Maury and 7th Sts. O. Claussen, city engr.

Neb., Ogalalla—City soon lets contract installing sewers in lateral sewer Dist. D and B.

S. D., Beresford—City having plans prepared by Dakota Eng. Co., Mitchell, for sewerage system.

Mo., Huntsville—City plans sewer and water system. About $50,000. E. T. Archer & Co., engrs., 514 New England Bldg., Kansas City, made plans.

Mo., Mexico—City voted $12,000 bonds for sewer improvements. Black & Veatch, 507 Inter-State Bldg., Kansas City, engrs.

Sewers (Continued)

Tex., Dallas—City plans to install sewage disposal plant. Cost, $30,000. H. Mosley, city engr., preparing plans.

Tex., McAllen—City plans election to vote on $30,000 bonds to install sewerage system.

Tex., Yorktown—City plans sewerage system. Surveys now being made.

Okla., Buffalo—City plans to install sanitary sewerage system. About $25,000.

Okla., Jenks—Property owners voted $12,000 bonds for sewerage system.

Okla., Oklahoma—City will soon let contract for sewer, cost about $200,000.

Okla., Okmulgee—City plans to install sewers and water system. Benham Engineering Co., Colcord Bldg., Oklahoma City, preparing plans.

Utah, Ogden—City plans election to vote on $300,000 bonds to install sewers in 3rd Ward and $50,000 to pave streets. J. M. Tracy, city engr.

Wash., Seattle—City soon lets contract for installing sewers and watermains; cost about $25,790. A. H. Dimock, city engr.

Cal., Los Banos—City plans to build sewerage system; cost, $30,000. Olmsted & Gillelen, engrs., 1112 Hollingworth Bldg., Los Angeles, engrs.

Cal., Martinez—See "Water-Works."

Ont., Toronto—Works Com. considering rebuilding sewer on Marguerette St.; cost $20,000.

Ont., Woodstock—City plans to construct sewerage system. Cost, $154,000. W. Chapman, Toronto, engr.

Bids Desired

N. Y., New York—Until Apr. 26 by D. Mathewson, boro, pres., Municipal Bldg., Crotona Park, Tremont and 3rd Ave., Bronx for installing sewers and appurtenances in portion West 183rd St. and Van Cortland Park S., for steps from Tremont Ave. transverse road to easterly side of Grand Blvd. and Concourse, regulating, grading, setting curb, laying sidewalks and crosswalks, building inlets, receiving basins, drains, culverts, approaches, and guard rails where necessary in Bronx Blvd.; paving with sheet asphalt and granite block on concrete foundation portion of Franklin Ave. and setting curbs where necessary; repaving with sheet asphalt on concrete foundation portion Southern Blvd.; Crotona Park, and setting necessary curbs; paving with sheet asphalt portion of Wilkins Ave., and setting curbs where necessary, and repaving with granite blocks on concrete foundation portion of Hunts Point Ave.

Until Apr. 27 by M. M. Marks, boro. pres., Municipal Bldg., for alteration of receiving basins, with inlets in portion Scammel St. and northwest and southwest corners of 1st and 2nd Ave. and 13th St., portions of 3rd and 6th Ave. Catherine, McDougal and Prince St.

N. Y., White Plains—(Official)—Until May 7 by Harvey Green, clk. Bd. Supervs., for sewer in Quincy Pl.

Pa., Phœnixville—Until May 5 by Sewer Com. for sewer on portion of Gay St.; advertised in this issue.

N. C., Beaufort—Until Apr. 20 by C. H. Bushall, city clk., for about 5 mi. sewers with electric pumping station.

O., Centerburg—(Official)—Until May 4 by N. C. Smith, village clk., for furnishing material for and building sewage disposal plant and sewers. Richards Eng. Co., 37½ East Long St., Columbus, engrs.

O., Lakewood—Until Apr. 25 by N. C. Cotabish, dir. dept. pub. wks., for lake outlet section of outfall sewer; advertised in this issue.

Ia., Bedford—Until Apr. 23, by city for 2568 ft. 12-in. outlet sewer, Imhoff tank, sludge beds, chambers, etc.

Kan., Geuda Springs—See "Waterworks."

Mont., Bozeman—See "Streets and Roads."

Wash., Sedro Wooley—Until Apr. 23 by C. A. Smith, city clk., for lateral sewers.

Ont., North Bay—Until Apr. 23 by H. J. McAuslan, town engr., for laying 3 sewers.

Ont., Ottawa—Until Apr. 24 by Secy Bd. Control for 8100 lin.ft. 48- and 54-in. rein.-con. or vitr. clay segment block sewer pipe.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Mass., Reading**—City let contract sewerage system, Sect. 1, to Bruno & Pettiti, 18 Tremont St., Sect. 2 Susi & Williams, 3 North Sq., both of Boston; cost $200,000.

★**N. Y., Yonkers**—City let contract storm water and house sewers in McLean Ave. to N. Mangini, 17 Cliff Ave., $18,950.

★**Pa., Wilkes-Barre**—City let contract sewers and paving to D. Buckley & Son, 40 Oregon St., $12,000.

★**Pa., Williamsport**—City let contract sewers on various streets to R. J. Delong, 516 Anthony St., B. H. Coryell, 150 West 4th St., Busch & Stewart Trust Bldg.; cost $10,000.

★**O., Newark**—City let contract sewers on various streets to Keeley & Bolin, 116 Jackson St., Newark, and Henderson Bros., Coshocton.

★**Mich., Muskegon Heights**—City let contract laying 22,847 ft. 8- to 24-in. sewers to E. W. Kenegon, Muskegon, $70,480.

★**Ill., Gibson City**—City let contract to A. Birt, Decatur, at $25,860 for sewer.

★**Ia., Davenport**—City let contract sewerage system as follows: Richland Park and Westholme addition D. E. Keeler Co., 42 East 13th St., $16,764; Highland Park addition Independent Constr. Co., 304 Lane Bldg., $4,806.

★**Ia., Dunlap**—City let contract sewer system to M. A. Camery, Harlan.

Kan., Hays—See "Streets and Roads."

★**Mont., Big Sandy**—Town let contract sewer and water system to Miracle Concrete Co., Ft. Benton, $80,000.

★**Mont., Terry**—City let contract storm sewers in Dist. No. 5, to Security Bridge Co., Billings, at $29,580.

★**Idaho, Nez Perce**—City let contract sewerage system to Security Bridge Co., Lewiston Natl. Bank, Lewiston, $28,499.

★**Cal., Fresno**—City let contract storm sewer system, Sect. 1, to Stanley & Manning, Fresno, $45,620; Sect. 2, J. Kennedy, Washington Bldg., Los Angeles, $43,156.

★**Cal., Los Angeles**—Bd. Pub. Wks. let contract pipe for outfall sewer Hyperion Station, to National Tank & Pipe Co., 11th St. & Santa Fe Ave., $11,929.

—Bd. Pub. Wks. let contract sewers in Fountain and Seward Ave. Sewer Dist., to J. Balch, 588 10th St., San Pedro, $47,900.

★**Ont., Simcoe**—Town let contract sewer extensions to Ontario Sewer Pipe Co., for tile, and Harper & Co., St. Thomas, for labor. About $16,000.

STRUCTURAL STEEL WORK

Proposed Work

N. J., Elizabeth—Bd. Freeholders rejected bids bridge over Elizabeth River on South Front St. New Bids. About $54,000. J. E. Roe, co. clk.

N. J. Jersey City—Hudson and Essex Cos. plan to repair Jackson and Clay St., bridges over Passaic River between 2 counties. T. J. Wasser, engr. Hudson Co.

—Central R.R. of New Jersey plans viaduct over Phillip St. About $100,000. A. E. Owen, New York, ch. engr.

Pa., Pittsburgh—County plans election to vote on $3,500,000 bond issue to rebuild 6 bridges across Allegheny River.

W. Va., Follansbee—Mingo Bridge & Ferry Co., incorporated with $25,000 capital stock, plans bridge over Ohio River. J. W. Walsh, C. B. Magee, E. E. Carter and others, interested.

Ga., Dalton—Comrs. of Whitfield and Murray Cos. plan steel and concrete bridge over Connasauga River. Cost to be divided equally between 2 counties.

Fla., Jacksonville—Co. Comrs. plan election to vote on bond issue to build steel bridge over St. John's River, $1,000,000 and steel and concrete bridges over Trout and McGill's Creek, $200,000. Harrington, Howard & Ash, Orear Leslie Bldg., Kansas City, Mo., preparing plans.

Miss., Port Gibson—County plans election to vote on $10,000 bonds for bridge and road improvements.

O., Mechanicsburg—City plans to install 50,000-gal. steel tank; also c.i. piping. Cost, $40,000. Richards Eng. Co., 39½ East Long St., Columbus, engrs.

Wis., Milwaukee—See "Reinforced Concrete."

Ia., Mason City—County plans to rebuild 920-ft. steel bridge over Lime Creek. R. E. Robertson, co. engr.

Minn., Bemidji—County to sell $39,000 bonds Apr. 24 to build bridges.

Minn., Duluth—Plans submitted to City Comrs. by W. H. Strachan, supt. Northern Pacific R.R., for viaduct 1200 ft. long., to connect Commerce and Railroad Sts. Cost $46,000. L. Ayers, city engr.

Tex., Center Point—County voted $15,000 bonds to build 2 bridges over Guadalupe River. Address Co. Clk. Kerrville.

Okla., Eufaula—Jefferson Highway Bridge Co. engaged Harrington, Howard & Ash, Orear-Leslie Bldg., Kansas City, Mo., to prepare plans for toll bridge across South Canadian River. Cost, $150,000. C. W. Gust, secy.

Ariz., Clifton—City sold $100,000 bonds to build 3 bridges and retaining walls along San Francisco River, also to improve streets.

Ariz., Globe—Bd. Supervs. plans bridge over Piru Creek. About $20,000.

Wash., Duval—County prepared plans for 180-ft. steel or frame bridge, with 1000-ft. approach. About $25,000. S. J. Humes, Seattle, co. engr.

Wash., Spokane—County Comrs. plan bridge over Spokane River joining Newman and Greenacres Twps., 15 mi. east of Spokane. A. R. Scott, co. engr.

Ore., La Grande—City and Oregon-Washington R.R. & Navigation Co. plans viaduct on N. Fourth St. S. Murray, Portland, ch. engr. Cost, $2,000.

Cal., Duncans Mill—Northwestern Pacific R.R. plans steel bridge over Russian River. J. D. Williams, San Francisco, ch. engr. constr.

Cal., Oroville—See "Reinforced Concrete."

Cal., San Francisco—City plans bridge between here and Oakland to have 3 roadways and 4 railroad tracks; supports to consist of 14 piers, 2 large enough to allow passage of ships beneath them. M. M. O'Shaughnessy, city engr.

Cal., South Pasadena—Pacific Electric R. R. plans 200-ft. steel bridge over Arroyo Seco. G. E. Pillsbury, Los Angeles, ch. engr.

Ont., Toronto—Temiskaming Ry., 56 Church St., plans to build steel and concrete bridges. About $100,000.

Bids Desired

Mass., Boston—Until Apr. 25 by City rebuilding Brookline Ave. bridge over Boston & Maine R.R. tracks leading to Fenway Park. About $50,000. A. B. Corthell, Boston, ch. engr. Noted Apr. 12.

Mass., Plymouth—See "Reinforced Concrete."

N. Y., Massena—See "Reinforced Concrete."

N. Y., New York—Until May 7 by Pub. Ser. Comn., 120 Bway., furnishing and erecting structural steel for inspection sheds in 180th and 239th St. yards of Route No. 18, White Plains Road Rapid Transit R.R.

Pa., Johnstown—(Official)—Until Apr. 21 by Supt. Highways extension to 6th St. foot bridge, 11th Ward; advertised in this issue.

Pa., Wilkes Barre—See "Reinforced Concrete."

W. Va., Huntington—Until May 10 by County iron and steel superstructure for bridge over Four Pole Creek. Oliver & Maupin, Court House, engr.

S. C., Lockhart Mills—Until Apr. 27 by J. T. Jeter, superv., bridge over Broad River. Address co. clk., Union.

Ala., La Fayette—See "Reinforced Concrete."

Ia., Marion—Until Apr. 23 by co. aud., 3 pony truss bridges, 6 I-beam bridges and 3 box culverts. H. M. Hansen, co. engr.

N. D., Wahpeton—Until May 10 by county for 10 or more steel bridges. F. A. Burton, aud.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Mass., Newton**—Boston & Albany R.R. let contract Beacon and Washington St. bridges to T. Stuart & Son Co., 222 Pearl St.

★**N. Y., White Plains**—(Official)—Bd. Supervs. let contract 2 steel girder and rein.-con. bridges over 2 branches of Annsville Creek to Ferro Concrete Co., Calder Bldg., Harrisburg, $18,562.

Pa., Phila—(Official)—Dept. Pub. Wks. received low bids steel and concrete superstructure, 5th St. bridge from Monaghan & Losse, 3016 Chestnut St., $21,500; steel and concrete bridge with approved fills at Linden Ave. and Ashburner St., J. McMenanny & Co., Harrison Blvd., $105,500 and $136,800 respectively.

★**Pa., West Chester**—(Official)—County let contract 4 arch masonry bridge over Brandywine Creek at Rock Run Village to Weeds & Brook Constr. Co., Norristown, $33,390.

★**Minn., Walker**—(Official)—Cass and Wadena Cos. let contract State Bridge No. 2384, to Iowa Bridge Co., 712 Hubbell Bldg., Des Moines, $15,895.

★**Ark., Eureka Springs**—County let contract bridge to International Bridge and Iron Co., Edgar and Cleveland Ave., Evansville, Ind., $20,000.

★**Okla., Tulsa**—County let contract wrecking and moving Bridge No. 33 known as Tulsa-West-Tulsa Wagon Bridge to Canton Bridge Co., Belder Ave. and Penna. R.R. NE Canton, $33,300.

★**Wash., Chehalis**—County let contract bridge over Skookumchuck River to C. C. Huber, Central Bldg., Seattle, $14,730.

★**Que., East Angus**—City let contract steel bridge over St. Francis River to Phœnix Bridge Co., 83 Colborne St., Montreal, $45,000.

Ont., Windsor—See "Reinforced Concrete."

REINFORCED CONCRETE

Proposed Work

R. I., Cranston—State Bd. Pub. Bd. soon receives bids rein.-con. bridge on Elmwood Ave. About $30,000. I. W. Patterson, Providence, ch. engr.

N. Y., College Point—(Flushing P. O.)—Queensboro Drug Co., 167 Jackson Ave., Long Island City, plans 6-story, 50 x 100-ft. rein.-con. factory, 5th Ave. and 20th St. About $50,000. O. H. Fincke, 19 12th St., preparing plans.

N. Y., Schoharie—(Official)—Town retained E. J. Doyle, engr., De Graaf Bldg., Albany, to prepare plans concrete arch bridge over Foxenkill Creek.

N. J., Newark—Port Newark Warehouse Co., 411 Kinney Bldg., plans 2-story, 60 x 200-ft. rein.-con. warehouse. About $75,000. Bartlett & Marsh, archts., 738 Broad St., preparing plans.

Reinforced Concrete (Continued)

Pa., Phila.—Pennsylvania R.R. and City to let contract in May rein.-con. bridge on 25th St. A. C. Sound, Broad St. Station, ch. engr. C. Albright, city engr.

Pa., Scranton—Dept. Pub. Wks. estimates cost South Scranton Bridge connecting Harrison and Crown Aves., at $90,000. W. Schunk, city engr.

Pa., Williamsport—Co. Comrs and City preparing plans 15 span rein.-con. bridge, 1500-ft. long, on Newberry-Duboistown Rd. M. C. Krouse, engr.

Ga., Dalton—See "Structural Steel."

Fla., Jacksonville—See "Structural Steel."

O., Osgood—Lippincott Co. plans 2-story, 60 x 160-ft. rein.-con. plant Stegner & Hughes, Commercial Tribune Bldg., Cincinnati, archt., preparing plans.

Ind., Mishawaka—County plans rein.-con. bridge on Mishawaka Ave. About $85,000. Address clk., South Bend. C. W. Cole, Mishawaka, archt.

Ill., Effingham—County soon lets contract for 100 ft. concrete bridge; cost $15,000. A. T. Austin, co. supt. highways.

Wis., Milwaukee—City plans to build North Ave. viaduct, rein.-con. and structural steel, trusses to span railroad tracks. Cost, $400,000. C. E. Malig, City Hall, archt.

Ia., Sioux City—Campbell Baking Co. plans rein.-con. factory. About $150,000.

Kan., Topeka—Golden Belt Grain & Elevator Co. soon lets contract 250,000 bu. rein.-con. grain elevator. About $75,000. E. J. Smiley, 304 New England Bldg., secy., Lehrack Contr. and Engr. Co., 725 Gloyd Bldg., Kansas City, Mo., engr.

Neb., Shelton—State and County plans rein.-con. bridge over Platte River. About $65,000. G. E. Johnson, Lincoln, state engr. E. H. Morey, Kearney, co. engr.

Ore., Salem—State Highway Comn., Bridge Dept., preparing plans rein.-con. arch bridge over Des Chutes River at Millers' Bridge; 2 concrete bridges and 1 wooden Howe truss bridge in Hood River County; 2 bridges in Umatilla County. Plans prepared for 175-ft. rein.-con. viaduct over Mosier Creek, Wasco County.

Cal., Emeryville—Air Reduction Co. making plans rein.-con. factory. About $80,000.

Cal., Los Angeles—Methodist Bd. Spanish Missions plans 6-story, 100 x 100-ft. rein.-con. institutional church north of Plaza. About $160,000. Train & Williams, archts., 226 Exchange Bldg., preparing plans.

Cal., Nevada City—County plans concrete addition to hospital. About $60,000.

Cal., Oroville—Great Western Power Co., 14 Sansome St., San Francisco, plans concrete and steel highway bridge over Feather River.

Cal., Sacramento—State Highway Comn. soon receives bids rein.-con. bridge over Cottonwood Creek, Shasta County. W. R. Ellis, secy.

Cal., San Diego—W. S. Post, engr., Fletcher Bldg., completed plans for 2 rein.-con. dams for San Dieguito Mutual Water Co., 1 dam 650 ft. long and 110 ft. high, on Santa Isabel River and other smaller structure on San Dieguito site, for use in irrigating about 20,000 acres.

—City retained M. M. O'Shaughnessy, 2732 Vallejo Ave., San Francisco, as supt. and cons. engr. for construction of Lower Otay Dam, rein.-con. About $682,200.

Ont., Toronto—See "Structural Steel."

Bids Desired

Mass., Plymouth—Until Apr. 24 by county for rein.-con. and steel bridge over North River between Marshfield and Norwell. About $30,000.

N. Y., Massena—(Official)—Until Apr. 20 by Frank A. Hough, town clk., for concrete-steel arch bridge over Grasse River, advertised in Apr. 12 issue.

Pa., Lancaster—(Official)—Until Apr. 23 by Co. Comrs., grouting and coating intrados of 9 arch rubble masonry bridge; advertised in this issue.

Pa., Wilkes-Barre—Until Apr. 23, by F. R. Heidershott, co. contr., for rebuilding No. 14 viaduct, rein.-con. and structural steel, paving, etc. Cost, $40,000. D. A. Keefe, Athens, engr.

W. Va., Bethany—Until May 5 by county for concrete bridge over Buffalo Creek. K. C. Brashear, Wellsburg, clk.

W. Va., Kingwood—Until May 3 by county concrete girder bridge, 2 18-ft. spans, 18-ft. roadway. H. E. Wilhelm, dist. engr. and clk.

W. Va., Logan—Until May 7 by county, 6 rein.-con. bridges, Logan Dist. R. M. Wilson, engr.

Ala., La Fayette—Until Apr. 26 by W. S. Keller, state highway engr., court house, 160-ft. steel bridge, wooden floors, concrete piers and abutments over Ossanippa Creek; also 30-ft. rein-con. bridge over Davis Creek.

Mich., Flint—Until Apr. 27 by council for 2 span rein.-con. arch bridge over Flint River on Willcox St. About $59,000. D. E. Newcombe, city clk.

Mo., Kansas City—(Official)—Until Apr. 24 by V. H. Cochrane, engr. bridges, for constructing Beardsley St. Trafficway, south of Main St., comprising several hundred feet, rein.-con. retaining wall and sidehill viaduct with necessary grading. About $110,000.

Colo., La Junta—Until Apr. 21 by O. Walker, co. clk., concrete bridge over Otero Canal on Santa Fe Trail between Manzanola and Fowler.

Cal., Merced—Until May 7 by J. Thornton, co. clk., concrete bridge over Los Banos Creek.

Cal., Visalia—Until May 8 by G. R. Prestidge, co. clk., for 9 concrete bridges on state highway between Visalia and Kern Co. line.

Prices and Contracts Awarded

(★Indicates award of contract)

★**N. Y., White Plains**—City let contract reinforced concrete bridge to Fagman Bros., Tuckahoe, $16,355.

N. Y., White Plains—See "Structural Steel."

★**Pa., Mont Clare**—County let contract rein.-con. bridge to Need Brooks Constr. Co., Perkiomenville, $15,000.

★**W. Va., Fairmount**—City let contract 2 concrete bridges to Concrete Steel Eng. Co., 42 B'way, New York, $550,000.

★**Neb., Grand Island**—City let contract, rein.-con. well and pump to W. Kelley & Co., about $18,000.

★**Mo., Jefferson City**—County let contract 3 concrete bridges to Pope & Kersting, Jefferson City, $10,680.

★**Ark., Pine Bluff**—(Official)—High School—Bd. Educ. let contract, rein.-con., to E. C. Loyse, Pine Bluff, $144,031.

★**Wash., Chehalis**—(Official)—County let contract 90-ft. rein.-con. span over Skookunchuck River to C. G. Huber, Central Bldg., Seattle, $14,730.

★**Wash., Selah**—Selah Fruit and Cold Storage Co. let contract 3-story, rein.-con. cold-storage plant to Scenic Constr. Co., Downs Bl., Seattle, $50,000.

★**Ore., Portland**—Frei Pickle Works let contract 3-story, 100 x 140-ft., rein.-con. factory to Hurley Mason Co., Worcester Bldg., $60,000. Noted Apr. 5.

★**Cal., Emeryville**—Air Reduction Co. let contract 1- and 2 story, rein.-con. factory to P. J. Walker Co., Monadnock Bldg., San Francisco, $80,000. Noted Apr. 17.

★**Cal., Los Angeles**—Cuyamaca Water Co., San Diego, let contract rein.-con. multiple arch dam 800 ft. long and 119 ft. high to Sharpe Fellowes Constr. Co., 523 Central Bldg., about $110,000.

★**Ont., Windsor**—City Council and Canadian Pacific R.R. let contract rein-con. and steel bridge to John V. Gray Constr. Co., Ltd., Confederation Life Bldg., Toronto, $16,000.

STREETS AND ROADS

Proposed Work

Mass., Leominster—City plans to pave 3000 sq.yd. with block on cement base and 17,000 sq.yd. heavy bituminous macadam; cost about $26,000.

Conn., Hartford—City soon lets contract paving 43,085 sq.yd. asphalt and 3010 sq.yd. granite block. R. N. Clark, city engr.

City plans to issue $1,000,000 bonds to improve streets. R. N. Clark, city engr.

N. J., Avon By The Sea—Boro. rejected bids paving Main St.; lowest bid $80,400.

N. J., Bayonne—City soon receives bids paving 20 streets. W. L. Clarkson, city engr.

N. J., Camden—Bd. Freeholders plans to pave portion White Horse Pike and improve portion Blackwood Pike and Browning Rd. About $58,000.

N. J., Elizabeth—City plans to repave Elm and Chilton St. and Sheridan Ave. About $31,500. T. E. Collins, city engr.

—Bd. Freeholders planning paving 3 mi. Mountain Ave., tar surfacing on concrete base; cost about $90,000. J. L. Bauer, 120 Broad St., co. engr.

N. J., Jersey City—Co. Blvd. Comn. granted appropriation of $60,000 by Legislature for paving boulevard.

N. J., Newark—Bd. Freeholders plans $50,000 bond issue for road work and other improvements in county park.

N. J., New Brunswick—Bd. Freeholders plans to issue $461,000 bonds to improve 9 roads in county.

N. J., Newton—Bd. Freeholders rejected bids paving Ross' Corner-Sussex Rd., concrete. About $109,588.

N. J., Perth Amboy—City sold $165,000 bonds to improve streets, $124,000 for park improvements, $40,000 to install sewers and $26,000 to build schools. S. J. Mason, city engr.

N. J., Sparta—Town voted bonds to build and improve road between Sparta and Woodport.

N. J., Trenton—City Comn. and Trenton and Mercer Co. Traction Corp. plans boulevard on South Broad St., from Liberty St. to Cedar Lane. About $12,000. A. Swan, city engr.

Pa., Beaver—Co. Comrs. plan 4½-mi. concrete road. About $90,000.

Pa., Birdsboro—Town having surveys made to improve various streets. About $30,000.

Pa., East Mauch Chunk—(Official)—Boro. to let contract in about 3 months paving 1852 ft. Center St., amelsite tarvia, bituminous macadam or asphalt. Estimate $12,000 to $15,000. M. C. Bainberger, secy. Bascom & Selger, Allentown, engrs.

Pa., Gettysburg—County made surveys rebuilding 5-mi. Harrisburg Rd.; warrenite, concrete or some other permanent material will be used.

Pa., Newport—Boro. plans paving, grading and curbing and installing sewers in 4th and Market St. About $20,000. P. Hertz, Walnut and Berry St., secy. A. Kupp, engr., Bellefonte, preparing plans.

Pa., Phila.—Bureau of Highways soon lets contract for repaving work to cost $1,500,000 and new paving work $300,000, county roads $250,000, extension of northeast boulevard $200,000, completion of Plaza Southern Blvd., $125,000.

W. Va., Fayetteville—(Official)—County rejected bids improving James River and Kanawha Turnpike in Sewall Mountain Dist. T. F. Maloy, dist. road engr. R. J. Stegall, co. clk.

N. C., Asheville—Co. Comrs. plan $1,000,000 bond issue to build roads including 80 mi. of concrete or bituminous macadam.

N. C., Jefferson—Co. election May 8 to vote on $200,000 bonds to build roads.

N. C., Southport—Co. election May 29 to vote on $12,000 bonds to build roads.

N. C., Warrentown—(Official)—City sold $15,000 bonds to improve streets. E. G. Elliott, city engr.

S. C., Beaufort—(Official)—City to sell $15,000 bonds Apr. 25 to improve Bay St., 13,000-sq.yd. cement concrete. Will let contract about May 10. H. G. Otis, city engr.

S. C., Darlington—City soon lets contract paving public square and streets. Bonds for $50,000 to be voted for work. L. Lee, Sumter, engr.

S. C., Gaffney—County sold $225,000 bonds to build highways.

S. C., Newberry—County voted $40,000 bonds to build roads in Twp. No. 4.

Ga., Brunswick—County election Nov. 7 to vote on $300,000 bonds to build highways and schools.

Ga., Griffin—City plans to spend $135,000 to pave streets.

Ga., Savannah—City planning paving portions of Lathrop Ave. and Waters Rd., concrete. E. R. Conant, city engr.

Ga., Thomasville—See "Water-Works."

Fla., Clearwater—County voted $100,000 bonds to build brick roads to connect Pass-a-Grille with new bridge to be built across Boca Ceiga Bay in Special Rd. Dist.

Ala., Troy—City soon lets contract paving business section. Estimate $75,000 to $100,000.

Miss., Charleston—(Official)—County soon lets contract 21-mi. highway to be 16-ft. gravel road oiled, connecting Coahoma and Le Flore Cos. Bonds for $200,000 sold for work. A. N. Bullitt, 92 North Tucker St., Memphis, engr.

Miss., Port Gibson—See "Structural Steel."

Miss., Waveland—City plans to issue $25,000 bonds to pave streets.

La., Lake Providence—County election Apr. 21 to vote on $100,000 bonds to build roads.

La., Monroe—See "Water-Works."

Tenn., Athens—County election May 2 to vote on $300,000 bonds to build roads.

Tenn., Blountville—County plans to issue $100,000 bonds to build roads.

Tenn., Dandridge—Co. Court authorized $200,000 bond issue; $50,000 repairing old roads and $150,000 to build new roads. A. Holsinger, comr.

Tenn., Dayton—County election in May to vote on $100,000 bonds to build roads. C. D. Sanborn, chn. com.

Tenn., Greenville—Greene County voted $510,000 bonds to improve roads.

Tenn., Irwin—Co. Comrs. voted $100,000 bonds for building roads. Noted Apr. 5.

Tenn., Jacksboro—Co. Comrs. plan election to vote on $350,000 bonds to build roads.

Tenn., Seiverville—County votes June 2 on $250,000 bonds for roads.

Tenn., Wartsburg—County Court will issue $200,000 bonds for road work. J. A. Barger, road supt.

Ky., Fulton—Fulton Commercial Club plans 6-mile rock road west of city. About $20,000.

Ky., Scottsville—County plans to grade and surface several roads with gravel. J. W. Crowe, co. engr.

Streets and Roads (Continued)

O., Cleveland—County soon receives bids paving portion Broadway. About $120,000. W. A. Stinchcomb, co. surv.

—City rejected bids paving and improving portion 66th St. R. Hoffman, city engr.

—City plans improving portion Woodhill and Pearl Rd. R. Hoffman, city engr.

O., Lisbon—County to let contract in May improving East Liverpool-Lisbon Rd. including bridges, draining and culverts. About $150,000. M. C. Armstrong, engr.

Ind., Bloomfield—County received no bids building 2 macadam roads. Wright Twp. G. E. Kidd, aud.

Ind., Elkhart—City plans to improve streets. About $150,000. L. M. Russell, city engr.

Ind., Kendallville—City plans paving portion South Main St. Cost, $36,282; also improving water supply system; cost, $16,000.

Ind., Logansport—City plans paving Seybold and Helm St. H. H. Tompson, city engr.

Ind., Terre Haute—City plans paving about 5500 ft. on South 3rd St.; also alley between 6th and 6½ St., either brick, asphalt or concrete. Frank A. Rattman, city engr.

Ind., Washington—County received no bids building pike road, Washington Twp. J. D. Clark, co. aud.

Mich., Atlanta—County plans trunk line road through 3 townships. J. H. McQueen, co. surv.

Mich., Detroit—County plans to spend $1,500,000 to improve roads. E. C. Dingeman, surv.

Mich., Hastings—County plans to build 10- to 20-mi. county and trunk line roads. G. Burgess, co. engr.

Mich., Kalamazoo—County plans to build 5- or 6-mi. road. H. C. Fleming, co. engr.

Ill., Dixon—City plans about 9000 yd. paving. Chas. F. Nesbit, engr.

Ill., Herrin—City plans 8 to 10 mi. of 4-in. concrete sidewalk and 1½ mi. concrete paving. R. L. Adams, city engr.

Ill., Highwood—(P. O. Waukegan)—City plans paving Railway Ave., Funston, Palmer and other streets with portland cement concrete, about 20,000 sq.yd. Jas. Anderson, Jr., city engr.

Ill., Normal—City plans 8000 sq.yd. paving.

Ill., Peoria—Bd. Local Improv. plans paving portion North St., brick. About $34,590. L. D. Jefferies, city engr.

—(Official)—County defeated $1,700,000 bonds to improve roads. O. Heinrick, clk.

Ill., West Frankfort—City plans to build 10 mi. concrete sidewalks and 7 mi. of hard roads. Putman & Mantz, Benton, engrs.

Ia., Davenport—City plans to extend Kirkwood Blvd. from Bridge Ave. to Christie St. R. E. Sawistowsky, city engr.

Ia., Dubuque—City plans to improve portion Bluff and South Bluff St. E. C. Blake, city engr.

Minn., Duluth—Bd. Comrs. voted $86,125 bonds for roads in 6th Dist. and $38,171 for roads in 4th Dist.

Minn., International Falls—City plans paving of 5 streets.

Minn., Olivia—County plans to build 12-mi. road. J. L. Johnson, co. aud.

Minn., Princeton—County plans to build 100-mi. highways. J. D. Gray, Milaca, county engr.

Kan., Pittsburgh—City election May 9 to vote on $30,000 bonds for street improvements.

Neb., Kearny—City voted $50,000 bonds to pave streets. E. H. Morey, city engr.

N. D., Grand Forks—County plans to gravel 20-mi. road. J. A. Ingram, co. engr.

N. D., Lisbon—County plans to build 30-mi. road. C. Eskestrand, supt. highways.

Mont., Butte—City plans grading, curbing and concrete sidewalks in Imprv. Dist. No. 230. About $18,000. J. J. Armstrong, city engr.

Mont., Roundup—City preparing plans paving business dist. About $60,000.

Mo., Benton—County election May 17 to vote on $950,000 bonds grading and paving 190-mi. road, flint gravel or clay binder. Noted Apr. 5.

Mo., Kansas City—City retained McCrae Engr. Co., Glendale Bldg., to prepare plans grading 60,000 yd. About $25,000. C. Hill, city engr.

Ark., McGehee—Comrs. of Desha, Lincoln, Drew, Chicot and Ashley Cos. retained Ford & MacCrea, engrs., Gazette Bldg., Little Rock, to make plans for Arkansas-Louisiana highway, from Grady to Louisiana state line and branch running from McGehee to Arkansas City. J. A. Dermott, pres.

Ark., Mt. Ida—County plans to build 50-mi. highways under supervision State Highway Comn., Little Rock.

Tex., Giddings—County voted $150,000 bonds for good roads.

Tex., Houston—County considering issuing about $1,000,000 bonds for road work.

Tex., McAllen—City plans election to vote on $16,000 bonds to pave streets.

Tex., McKinney—County defeated $100,000 bonds to build roads in Allen Dist.

Tex., Waco—City soon receives bids paving South 5th St. G. B. Gurley, city engr.

Okla., Anadarko—County voted $20,000 bonds to improve roads.

Okla., Bartlesville—County plans election to vote on $600,000 bonds to build 121-mi. hard surfaced highways, 16-ft. wide.

Okla., Claremore—County plans election to vote on $12,000 bonds to build roads in Oowalda Twp.

Okla., Pryor—County voted $20,000 bonds to improve roads in Choteau Twp.

Idaho, Twin Falls—City plans to build sidewalks in L. I. D. No. 28. About $38,500. J. A. Bybee, city engr.

Nev., Reno—City plans to spend $40,000 paving streets. H. C. Chism, city engr.

Ariz., Clifton—See "Structural Steel."

Ariz., Holbrook—County election Apr. 24 to vote on $160,000 bonds to build roads. R. S. Teeple, clk. bd. supervs.

Wash., Bellingham—Whatcom County Baker and Acme Twps., voted $33,000 and $55,000 bonds respectively, to build hard surface road from Deming to county line at Wickersham. J. J. Miller, audr.

—City plans to improve portion Grand Ave., asphalt on concrete base, concrete or other suitable materials. About $12,000. W. H. North, city engr.

Wash., Blewett—State Highway Comrs. planning building 12 mi. dirt road, cost $80,000. J. Allen, Olympia, engr.

Wash., Centralia—City plans to improve Washington Ave., Locust, Walnut, Pear, Plum, Cherry, Chestnut, Silver, Iron, Rock, Oak, Ash, King, and other streets by laying 5-ft. concrete sidewalks; also paving alley in Block 14, L. M. Lee, clk. Washington Addition.

Wash., Kelso—County made plans improving 3-mi. Pacific Highway north and south of Castle Rock; also plans 2 overhead crossings over Northern Pacific tracks. F. C. Cramer, Kalama, co. engr.

Wash., Port Angeles—City plans paving 2nd and 3rd Sts., concrete. Cost, $23,100. Frank Semon, city engr.

Wash., Seattle—City soon receives bids paving Utah and Forest Ave. About $35,000. A. H. Dimock, city engr.

Wash., Sedro Wooley—Council passed resolution for clearing, grubbing, grading and paving with concrete portions of Bennett, 6th and Nelson Sts. Cost, $20,000. C. S. Smith, city clk.

Ore., Portland—City soon receives bids 10,000 bbl. crude oil for oiling macadam and gravel streets during summer. P. H. Dater, city engr.

Ore., Roseburg—County election June 4 to vote on $555,000 bonds to build permanent highways. E. H. Lennox, clk.

Ore., Salem—State Highway Comn. authorized survey for highway across Wheeler Co. from east to west being continuation of Oregon Central Highway from Florence on Pacific Coast through state. Bonds for $800,000 recently voted for project.

Ore., The Dalles—County sold $260,000 bonds for highway work.

Cal., Bakersfield—City preparing plans paving portion 17th and 18th St. G. Ray, city engr.

Cal., Beaumont—Bd. Supervs. to let contract in May paving 10,547 lin.ft. Beaumont Ave., 5340 lin.ft. Brookside Ave. and 5194 lin.ft. Woodland Ave. in Beaumont Rd. Dist. About $46,827. C. R. Twinning, engr. for dist.

Cal., San Diego—City to let contract in May paving La Jolla Blvd., Prospect Pl. and other streets, including 413419 sq.ft. 4-in. concrete and 2057 lin.ft. cement curbs, etc. G. Cromwell, city engr.

—G. Cromwell, city engr., preparing plans for 23-mi. concrete paving on Torrey Pines Blvd. Contract to be let in fall.

Cal., Santa Rosa—City plans to pave 4th St., Topeka asphalt or concrete, including cement curb and storm drain. R. R. Smith, city engr.

N. S., Halifax—Wks. Dept. plans to construct sidewalks and curbs on various streets; cost, $25,000.

Bids Desired

Conn., Hartford—(Official)—Until Apr. 24 by Bd. Contract and Supply for 43,000-sq.yd. sheet asphalt on concrete base, 3000-sq.yd. granite block on concrete base and 6400-sq.yd. asphalt wearing surface only. R. N. Clark, city engr.

N. Y., Albany—(Official)—Until May 1 by State Highway Comn., 55 Lancaster St., repairing highways in Broome, Cayuga, Clinton, Columbia, Erie, Jefferson, Niagara, Orange, Oswego, Otsego, Saratoga, Suffolk and Westchester Cos.; advertised in this issue.

N. Y., Brooklyn—Until Apr. 26 by Clerk Bd. Municipal Bldg., furnishing, delivering and spreading 11,400 gal. refined tar on portion Ft. Hamilton Parkway. C. Ward, pres.

N. Y., New York—See "Sewers."

N. Y., New York—Until Apr. 20 by M. M. Marks, boro. pres., for regulating and repaving with sheet asphalt on concrete foundation portions of Wall, Scammel and Macdougal Sts.

N. J., Bayonne—(Official)—Until May 24 by Bd. Comrs. improving portions Garretson and Trask Ave., 6th, 29th, 1st, 52nd, 28th, Cooper and Agnes St. W. L. Clarkson, city engr.

N. J., Jersey City—(Official)—Until Apr. 24 by Br. Comrs. repaving portion Henderson St. C. A. Van Keuren, city engr.

Pa., Oil City—(Official)—Until May 14 by City paving several alleys, rein.-con. or vitrified brick, about 3350 sq.yd.; advertised in this issue.

Pa., Wilkes-Barre—(Official)—Until Apr. 24 at City Clerk's Office, furnishing and delivering f.o.b. cars, Wilkes-Barre, 30,000 gal. road oil, more or less; advertised in this issue.

Md., Baltimore—(Official)—Until May 1 by State Roads Comn., 601 Garrett Bldg., building 5 sections state highway and 1 bridge; advertised in this issue.

Md., Denton—Until Apr. 24 by county building section state-aid highway; 1½-mi., 12-ft. wide, macadam road from Federalsburg toward Preston, slag base and stone top; also 1-mi. 14-ft. concrete road from Ridgely and 1½-mi. shell road from Greensboro toward low schoolhouse. H. Waldorf, engr.

Va., Bedford—Until Apr. 23 by Co. Supervs. for 6-mi. macadam road between Campbell and Bedford Co. line and May's Mill.

W. Va., Beckley—(Official)—Until May 4 by County Court and Advisory Com., building 70 mi. improved roads; advertised in this issue.

W. Va., Clarksburg—Until Apr. 27 by county grading and paving, brick, concrete or asphalt, on 3.3-in. Shinn Run Rd., Clay Dist.; 1-mi. Mudlick Rd., Clay Dist.; 1-mi. Fairmont and Clarksburg pike, Coal Dist; ¼-mi. Clarksburg and West Pike, Clark Dist.; ½-mi. Northwestern pike, Tenmile Dist. G. M. Harbert, engr.

W. Va., Fairmont—(Official)—Until Apr. 27 by County Court building 31-mi. improved roads and streets, Lincoln Dist. A. G. Martin, clk.

W. Va., Fayetteville—Until May 7 by R. J. Stegall, co. clk., for improving portions of James River and Kanawha Turnpike, Falls Dist., about 14.5 mi.; bituminous macadam (penetration), Portland cement concrete, asphaltic concrete and other materials. T. F. Maloy, Landisburg, dist. road engr.

W. Va., Lewisburg—(Official)—Until May 1 by County Court, improving 17.5-mi. roads in Ft. Spring Dist.; advertised in this issue.

W. Va., New Cumberland—(Official)—Until Apr. 23 by County Court paving in Grant Dist., brick. About $125,000 available for work. C. E. Grafton, co. rd. engr.

N. C., Newbern—County receiving bids Apr. 23, 50-mi. brick road. S. H. Fowler, co. clk.

N. C., Roxboro—Until May 8 by Co. Highway Comrs. for sand clay road. M. R. Long, comr.

S. C., Pickers—Until May 8 by Co. Highway Comrs. for sand clay topsoil road.

Ga., Barnesville—(Official)—Until May 3 by Mayor and Council, grading, curbing, draining and improving certain streets, vitrified brick, asphalt or concrete, also grading and laying tile or concrete on certain sidewalks; advertised in this issue.

Tenn., Greeneville—Until Apr. 30 by County Comrs. grading 160-mi. and macadamizing 140-mi. road. Bonds for $510,000 voted for work. C. E. Colle, engr.

Tenn., Knoxville—Until Apr. 30 by City resurfacing 26,900 sq.yd. asphalt, on Asylum and Commerce Ave., Wall, Walnut, Market and Depot St. J. B. McCalla, city engr.

Tenn., Mountain City—Until May 7 by County for 25-mi. road. About $200,000 available for work.

O., Beallsville—Until Apr. 27 by C. Davis, village clk., paving streets with vitrified brick, grading, curbing and installing sewers.

O., Cleveland—Until Apr. 25 by city paving portion Coit, Euclid, Hilgert, Ingersoll, Lakeside and East 54th Sts. R. Hoffman, city engr.

O., Lancaster—(Official)—Until May 2 by city improving portion Wheeling St., including 1600-cu.yd. excavation, 4910 lin.ft. straight sandstone curb, 610 lin.ft. steel faced concrete, 560 lin.ft. backing, 1 manhole, 1 catch basin and 50 lin.ft. 15-in. pipe drain. About $13,900. J. Griggs, city engr.

Ind., Bloomfield—Until May 8 by G. E. Kidd, co. audr., 2 macadamized roads, Wright Twp.

Ind., Brownstown—Until May 7 by A. Leudtke, co. audr., tarvia macadam road, Carr Twp., gravel road Salt Creek Twp.

Ind., Vernon—Until May 7 by G. J. Bernhart, co. audr., crushed stone road, Lovett and Columbia Twp.

Streets and Roads (Continued)

Ind., **Versailles**—Until May 7 by J. F. Lochard, co. audr., crushed stone road, Brown Twp.

Ind., **Vincennes**—(Official)—Until May 8 by County, 43,000-sq.yd. brick paving, 6-mi. rolled-stone roads and 5½-mi. gravel roads; advertised in this issue.

Ind., **Winchester**—Until Apr. 26 by C. E. Tilson, co. audr., 2 stone roads, White River Twp.

Mich., **Ontonagon**—(Official)—Until Apr. 20 by Co. Road Comn. for macadamizing and grading roads; advertised in Apr. 12 issue.

Wis., **Clintonville**—Until Apr. 27 by city paving Shawano St., rein.-con. vitrified brick and asphaltic concrete.

Mont., **Bozeman**—Until Apr. 19 by C. A. Speith, city clk., for 4200 sq.yd. standard bitulithic pavement, also storm sewer. C. C. Widener, city engr.

Nev., **Ely**—Until Apr. 26 by F. D. Oldfield, co. clk., for highway work in Robinson Canyon on Lincoln highway.

Wash., **Everett**—Until Apr. 23 by M. Weatherbee, co. aud., for building 10 mi. permanent highway.

Wash., **Montesano**—Until Apr. 30 by county building permanent highway No. 15, also for clearing, grading, building culverts and trestle roadway over Oregon-Washington R.R. and Navigation Co.'s line and gravel surfacing Cosmopolis-North River Rd. G. D. Robertson, co. engr.

Wash., **Wenatchie**—(Official)—Until May 8 by Co. Audr. paving 1¼ mi. concrete. About $16,000. F. M. Berry, co. engr.

Prices and Contracts Awarded

(★Indicates award of contract)

Mass., **Boston**—Transit Comn. received low bids paving 13,000-sq.yd. Summer St., granite block, from H. S. Clark, 11 Montague St., Dorchester, $65,789; Coleman Bros., Pearl St., Chelsea, $67,405; J. Doherty, 133 Calumet St., Roxbury, $68,837.

★Mass., **Ware**—Town and Highway Comrs. let contract road work to Columbus Constr. Co., 16 Foster St., Boston.

N. Y., **Albany**—(Official)—State Highway Dept., 55 Lancaster St., received low bids, Apr. 11 repairing public highways as follows:

Repair Contract No. 1013, Road No. 5010, Albany Co., Sewage Disposal and Water Plant Co., Schenectady, $15,613; Repair Contract No. 1042, Roads Nos. 5502, 1102, 1104, 5253-C, 5255 and 5352-A, Allegany and Steuben Cos., Kennedy Constr. Co., Albany, $18,011; Repair Contract No. 1073, Roads Nos. 730, 731, 5264, 873 and 5151, Cattaraugus and Chautauqua Cos., R. Hopkins, Troy, $7650; Repair Contract No. 1032, Roads Nos. 596 and 596-A, Chenango Co.; Paddelford & King, Sherburne, $20,236, J. Walker, Albany, $20,917, Edgecomb Bros., Inc., Binghamton, $20,-999; Repair Contract No. 1023, Road No. 217, Delaware Co., Edgecomb Bros., Inc., Binghamton, $8278; De Graff & Hogeboom, Inc., Kingston, $9433, R. Hopkins, Troy, $9667; Repair Contract No. 1065, Road No. 5367, Greene Co., Catskill Constr. Co., Catskill, $38,938, Belmar Contr. Co., Inc., Troy, $41,500; Repair Contract No. 1078, Roads Nos. 167, 294, 401, 574-A, 648, 766-767, 1283, 1290, 1337 and 1367, 716, 717, 829, Monroe, Livingston and Ontario Cos., J. J. Crouch, Rochester, $15,586, Dale Engr. Co., Utica, $16,974, Ribstein-Holter Co., Inc., Rochester, $16,997; Repair Contract No. 1069, Roads Nos. 337, 1160, 1216, 1217 and 5492, Madison Co., Griffin & Griffin, Norwich, $6332, Paddelford & King, Sherburne, $6337; Repair Contract No. 1067, Road No. 15, Monroe Co., Wm. Bailey & Co., Rochester, $9853, Whitmore-Rauber & Vicinius, Rochester, $10,824, Ribstein-Holter Co., Inc., Rochester, $10,878; Repair Contract No. 1070, Roads Nos. 107, 155, 397, 511, 5124 and 5125, Montgomery Co., H. A. Murphy, Albany, $10,448, J. P. Dugan & Co., Inc., Amsterdam, $10,833; Repair Contract No. 1053, Roads Nos. 547 and 5106, Nassau Co.; E. Monahan, Manhattan Beach, $11,821; Repair Contract No. 1033, Road No. 487, Onondaga Co., C. E. Haney, Camillus, $29,645, Flood & Van Wirt Co., Hudson Falls, $32,367, G. B. Dickinson, Syracuse, $33,617; Repair Contract No. 1085, Roads Nos. 74 and 971, Onondaga Co., H. W. Roberts Co., Utica, $40,-883, G. B. Dickinson, Syracuse, $42,344; Repair Contract No. 1075, Roads Nos. 146, 207 and 333, Ontario Co., Dale Eng. Co., Utica, $19,740, F. T. Murray, Rochester, $20,270; Repair Contract No. 1043, Road No. 387, Orleans Co., Wing & Munger, Holley, $28,429, Greece Constr. Co., Rochester, $31,983; Repair Contract No. 1059, Roads Nos. 162, 220, 316, 708 and 784, Otsego Co., D. W. Robbins, Inc., New York City, $19,-911, R. Hopkins, Troy, $20,526; Repair Contract No. 1014, Road No. 1115, Rensselaer Co., Belmar Contr. Co., Inc., Troy, $15,460, Sewage Disposal and Water Plant Co., Schenectady, $16,319; Repair Contract No. 1054, Roads Nos. 907 and 5351, Steuben Co., Dale Eng. Co., Utica, $25,941, F. T. Murray, Rochester, $28,277, T. H. Gill Co., Binghamton, $29,391; Repair Contract No. 1052, Road No. 5173, Ulster Co., S. Beskin, Beacon, $32,214, DeGraff & Hogeboom, Inc., Kingston, $36,595.

(Official)—State Highway Dept., 55 Lancaster St., received low bids Apr. 13 repairing public highways as follows:

Repair Contract No. 1086, Roads Nos. 1174, 111, 123, 737, 882, 509, 5171 and 5087, Cayuga, Cortland, Oswego and Seneca Cos., R. Hopkins, Troy, $11,601; Repair Contract No. 1049, Road No. 482, Livingston Co., F. T. Murray, Rochester, $15,260, F. H. Gill Co., Binghamton, $15,-904, Dale Engr. Co., Utica, $16,992; Repair Contract No. 1076, Roads Nos. 286, 760, 1281, 386, 391, 392, 581 and 1293, Monroe and Orleans Cos., Sweeney & Boland, Rochester, $12,587, Ribstein-Holter Co., Inc., Rochester, $13,110, Dale Eng. Co., Utica, $13,879; Repair Contract No. 1077, Roads Nos. 1187, 5522, 485, 484, 608, 636, 662, 1196 and 5511, Monroe and Ontario Cos., J. J. Crouch, Rochester, $9544, Dale Eng. Co., Utica, $10,573; Repair Contract No. 1010, Road No. 299, Montgomery Co., J. P. Dugan & Co., Inc., Amsterdam, $14,426; Repair Contract No. 1031, Road No. 219, Otsego Co.; J. Walker, Albany, $4260; Repair Contract No. 1030, Roads Nos. 936, 5240, 5247, 5455 and 5443, Otsego and Delaware Cos., Harris & Griffin, Norwich, $9439, Atlantic Refining Co., Phila., $9507, D. W. Robbins, Inc., New York City, $10,358; Repair Contract No. 1008, Road No. 478, Rensselaer Co., Flood & Van Wirt Co., Hudson, $26,431; Repair Contract No. 1034, Road No. 5282, Seneca Co., Kennedy Constr. Co., Albany, $7975; Repair Contract No. 1080, Road No. 5211, Steuben Co., F. T. Murray, Rochester, $40,430, Dale Eng. Co., Utica, $42,747, J. C. Bradley, Corning, $44,017; Repair Contract No. 1082, Roads Nos. 906 and 5254, Steuben Co., F. T. Murray, Rochester, $18,927, Kennedy Constr. Co., Albany, $18,961, Greenfield Constr. Co., Hornell, $19,433; Repair Contract No. 1035, Road No. 699, Sullivan Co., N. E. Young, Jeffersonville, $25,783; Repair Contract No. 1083, Roads Nos. 5289 and 29, Tioga and Chemung Cos., Holeran Bros., Elmira, $13,865, P. F. Connolly, Elmira, $14,969; Repair Contract No. 1041, Road No. 919, Wayne Co., F. T. Murray, Rochester, $22,218, Greece Constr. Co., Rochester, $23,671, Dale Eng. Co., Utica, $23,806; Repair Contract No. 1055, Road No. 5323, Yates Co., F. T. Murray, Rochester, $11,450, T. T. Murray, Leroy, $12,112.

N. Y., **New York**—(Official)—M. M. Marks, boro. pres., received low bids regulating and repaving (a) Broadway, from Vesey St. to Bleecker St., sheet asphalt on stone block foundation (b) Broadway from Vesey to Bleecker St., sheet asphalt on stone block foundation from curb to rail with granite block pavement in and between tracks, on concrete foundation, (c) Broadway from Bleecker to 14th St., sheet asphalt on stone block foundation, (d) portion 31st St., sheet asphalt, (e) portion 125th St., sheet asphalt, (f) 138th St., sheet asphalt, (g) portion 5th Ave., granite block, (h) portion Ave. D, wood block, from Sicilian Asphalt Paving Co., 41 Park Row, (a) $56,931, (c) $25,843; W. J. Fitzgerald, 547 West 45th St., (b) $100,533; Uvalde Asphalt Paving Co., 1 Broadway, (a) $59,217, (b) $105,197, (c) $24,599; Dabney Asphalt Co., (f) $36,308; Asphalt Constr. Co., Madison Ave. and 137th St., (f) $34,711, (g) $15,000; Franklin Constr. Co., 52 Vanderbilt Ave., (h) $12,366.

N. Y., **Oswego**—City received low bids repaving portion West First St. from Tyne & Willie, Binghamton, $35,097; G. B. Dickerson, Union Bldg., Syracuse, $39,068.

N. J., **Bloomfield**—(Official)—City received low bids 80,000-gal. road oil (a) nonasphaltic, (b) asphaltic 40 to 45% asphalt, (c) asphaltic over 60% asphalt from C. R. Reid & Co., (b) .0934, (c) .125; Headley Good Roads Co., 30th and Spruce St., Phila., (a) .1198, (b) .0848, (c) .0841; Standard Oil Co., 26 Broadway, New York, (a) .1042, (b) .0767, (c) .0867; W. S. Logan, 9 Clinton St., Jersey City, (a) .0888, (b) .0773, (c) .1078; E. Lansdell Co., (a) .0848, (b) .0773, (c) .081; Penn. & Del. Oil Co., (a) .0898, (b) .0892.

N. J., **Elizabeth**—Bd. Freeholders received low bid paving portion Mountain Ave. from C. H. Winans Co., Linden, $112,311.

N. J., **Jersey City**—City Comrs. received low bids for 17,000 ft. asphalt block pavement in West Side Park from Hasting Pavt. Co., 25 Broad St., New York City, $38,073 and A. Letiori & Son. Co. 261 Wayne St., Jersey City, $41,901.

★N. J., **Newark**—City let contract paving portion Edwin and Maple Pl., Chadwick and other streets, to Standard Bitulithic Co., Essex Bldg., $54,000.

★N. J., **Nutley**—(Official)—Town let contract paving during year to Spaltz Bros., Maple Pl., $12,387.

N. J., **Orange**—City Comn. received low bids paving Main St., wood block, (a) 3 year guarantee (b) 5 year guarantee, from R. R. San Giovanni, 78 Hoyt St., Newark, (a) $94,749, (b) $96,000; Van Keuren & Sons, $127,675, (b) $129,905; Newark Paving Co., 133 1st St., Newark, (a) $106,253 (b) $107,213; C. Ippolito, Orange, (a) $111,815 (b) $113,725.

★City let contract supplying 125,000 gal. road oil to Headley Good Roads Co., 30th and Spruce St., Phila., 8.23c. per gal.

★N. J., **Passaic**—City Comn. let contract paving Passaic Ave., sheet asphalt, to Union Building & Constr. Co., $51,577.

N. J., **Salem**—Bd. Freeholders received low bids building 6th sect. Pennsgrove-Malaga Rd. from Sutton & Corson, Ocean City, $98,501, Clark & Johnson, Somers Point, $100,375, J. L. LeCompte, 39 West State St., Trenton, $102,598.

★Pa., **Phila.**—City let contract repairing alleys to C. A. McHugh Co., Phila., $20,000.

—Dept. Pub. Wks. let contracts grading and repaving various streets with asphalt to Barber Asphalt Paving Co., Land Title Bldg.; Eastern Paving Co., Penn Sq., Mack Paving and Constr. Co., 20th and Sedgley Ave.; Philadelphia Paving Co., 1345 Arch St., Ryan & Reilly Co., 33rd and Gray's Ferry Rd.; D. J. Lynch, 4029 Cambridge St.; J. J. McHugh, 1420 South Penn Sq. and P. J. Snyder & Co., 176 East Tulpehocken St.

★Pa., **Roaring Springs**—State Highway Comn., Harrisburg let contract 13-mi. road, Blair and Bedford Cos. to J. S. Vipond, Altoona.

★N. C., **Yadkinville**—County let contract 70-mi. roads from Donnaha to sand road near Jonesville to Smith Constr. Co., Atlanta.

★S. C., **Anderson**—City let contract paving 150,000 sq.yd. asphalt and brick, to Southern Paving & Constr. Co., James Bldg., Chattanooga, Tenn., $300,000. Noted Apr. 5.

★Tenn., **Erwin**—City let contract 19,000-sq.yd. paving to Murray Constr. Co., Holston Natl. Bank Bldg., Knoxville, $45,000.

★Ky., **Louisville**—County let contract building 2-mi. Preston-Sts. Rd. to H. Bickel Co., Louisville, $31,869.

★O., **Bryan**—(Official)—County let contract improving Inter-County Highway No. 306, Jefferson Township, to Kelly Constr. Co., Bryan, $113,090.

★O., **Cincinnati**—(Official)—County let contract resurfacing various roads to Ruebel Constr. Co., Colerain and Virginia Ave., $12,072.

★O., **Cleveland**—County let contract paving Anderson Rd. to C. Dempsey, $22,056.

—Bd. Control let contract improving Woodstock Ave. to A. M. Jejsa Paving Co., $23,444; Rosehill Ave. to Cleveland Trinidad Paving Co., 3409 Trumbull St., $13,488.

★O., **Columbus**—(Official)—Clinton Cowen, state highway comr., let contract improving Sect. "A." Cincinnati-Hamilton Rd., I. C. H. No. 39, Springfield and Coleraine Twps., to Andrews Asphalt Paving Co., Columbus Savings & Trust Bldg., $160,400.

★O., **Mt. Gilead**—(Official)—County let contract Mt. Gilead-Iberia Rd. to Brewer, Tomolson & Brewer, Chillicothe, $73,194; Penlan Rd. to Forest Constr. Co., Forest City, $46,451.

★Ind., **Logansport**—(Official)—County let contract improving highways to Palmer Moore & Co., Logansport, $20,500.

★Ind., **Wabash**—County let contract 2.14-mi. stone road to Lynn Bros., Wabash, $13,906.

★Mich., **Centerville**—County let contract gravel road, Sturgis Twp., to Beers & Brown, Geneva, Ind., $12,967.

★Mich., **East Lansing**—City let contract grading, curbing, and draining Michigan and Grand Aves. to W. H. Ryan, Lansing, $21,104.

Ill., **Chicago**—County received low bids roads in Worth and Palos Twp., including 89,642-sq.yd. paving, 29,486-sq.yd. earth shoulders, 20,-600-cu.yd. excavation in earth and old macadam, etc., from J. A. McGarry & Co., 189 West Madison St., at $152,636.

★Ill., **St. Charles**—(Official)—City let contract paving 4500-sq.yd., brick, to A. E. Ball, Hampshire. Noted Apr. 5.

★Ia., **Avoca**—(Official)—Town let contract paving 20,945-sq.ft. monolithic brick block and 18,-706 lin.ft. of 3-ft. 6-in. curb and gutter to Moore-Seig Constr. Co., Waterloo, $1.89 and 80c. per sq.yd. respectively.

★Ia., **Burlington**—City let contract paving portion South Main St. to G. Peterson, 511 South 8th St. Noted Apr. 5.

★Ia., **Keokuk**—City let contract paving portion Main St. to Cameron Joyce & Co., 515 Midland Bldg., Kansas City, Kan., portion Franklin St. to Keokuk Quarry & Constr. Co., Keokuk.

★Ia., **Orange City**—(Official)—Town let contract paving portion Main St. to Bryant Asphalt Paving Co., 807-8 Black Hawk Bldg., Waterloo, $1.75 per yd.

★Ia., **Primghar**—County let contract grading to F. Richardson, Maxwell, $15,000.

★Ia., **Sioux City**—Co. Bd. Superv. let contract permanent roads in Woodbury Co. to W. H. Dugan, 820 North 42nd St., Omaha, at $19,000.

★Kan., **Hays**—City let contract paving, curbing and guttering, excavating storm sewer and lowering 4 blocks sanitary sewers to A. Young Constr. Co., Lawrence, $50,820.

★Kan., **Mankato**—City let contract paving streets to Geiger Constr. Co., Leavenworth, $27,-558.

★Kan., **Pittsburgh**—(Official)—City let contract to Thogmartin & Gardiner, Ft. Scott, paving 4214 sq.yd. brick, 2958 lin.ft. combined curb and gutter and 1891 cu.yd. grading, $5303; to Kaw Paving Co., Topeka, paving 10,527 sq.yd., 4769 lin.ft. combined curb and gutter, 5256 cu.yd. grading, $31,219, and repaving 7037 sq.yd. 2-in. asphaltic concrete, $10,922.

Streets and Roads (Continued)

★**Mo., Brunswick**—City let contract paving 8000-sq.yd. brick block to Kennedy & Olson, 601 Ridge Arcade Bldg., Kansas City, $1.95 per sq.yd.

Mo., St. Louis—(Official)—Bd. Pub. Ser. received low bids paving (a) Goodfellow Ave., (b) Oriole Ave., (c) Plover Ave., (d) Beacon St., (e) Kennerly Ave., (f) Minnesota Ave., (g) Gasconade St. from, F. P. McCormick, Tulsa, Okla., (a) $21,509, (b) $24,397, (c) $26,168 (d) $10,124, (f) $10,054, (g) $10,079; Trinidad Asphalt Mfg. Co., Guaranty Trust Bldg., (a) $22,584, (b) $24,179, (c) $25,988, (d) $40,968; Granite Bituminous Paving Co., St. Louis, (e) $23,258; Evermann Constr. Co., (f) $9544; (g) $9395; J. F. McMahon Constr. Co., St. Louis, (g) $10,-138.

★**Ark., Pine Bluff**—Co. Rd. Improv. Dist. No. 15 let contract building highway from bridge over Arkansas River to Arkansas Co. line via Altheimer, Wabbeska, and Humphrey, to J. A. Perdue & Co., Pine Bluff, $214,000.

★**Wash., Davenport**—(Official)—County let contract graveling 12½-mi. permanent highway No. 3 to Zane & Donnell, Hanford, $41,436.

★**Wash., Ellensburg**—W. G. Damerow, co. aud., let contract permanent highway No. 3B to Hutter Constr. Co., Cle Elum, $13,974; No. 2 C to O. S. Brown, Ellensburg, $19,530.

★**Wash., Seattle**—City let contract concrete pavement on Renton Junction-Duwamish highway to Washington Paving Co., L. C. Smith Bldg., $65,842.

—Comrs. let contract paving portion Lake Washington Blvd., with 1 course concrete, including bridges and culverts to R. E. Russell, Lumber Exchange Bldg., $22,000.

★**Wash., Tacoma**—County let contract building Hill Highway to Independent Asphalt Paving Co., Northern Bank Bldg., Seattle, $34,150.

★**Ore., Astoria**—County let contract grading, grubbing and clearing Nehalem-Astoria highway to E. A. Gerding, $11,977.

★**Ore., Portland**—County let contract paving 11-mi. St. Helenes Highway to Warren Constr. Co., Journal Bldg., $180,922.

★**Calif., Beaumont**—Bd. Supervs. let contract grading and graveling roads to Bonrader & Smythe, Coachella, $22,384.

★**Cal., Fillmore**—Bd. Supervs. let contract 7.51 mi. concrete pavement on Fillmore-to-Piru Rd., Div. 3, to Brashear-Burns Co., La Brea Rd. and Wilshire Blvd., Los Angeles, $31,602.

★**Cal., Long Beach**—City let contract paving 377,131-sq.ft. on Anaheim St. and Cedar Ave. to Fairchild-Gilmore-Wilton Co., Pacific Electric Bldg., Los Angeles, $50,976.

★**Calif., Los Angeles**—City let contract improving Bronson Ave. to Bryant & Austin, Inc., 1650 Compton Ave., $38,976.

★**Cal., Marysville**—City let contract improving streets in Dist. No. 4 and 5 to Federal Constr. Co., Sharon Bldg., San Francisco, $19,603 and $18,576 respectively

Calif., Merced—City received low bids paving 300,000-sq.ft. 4-in. and 82,000-sq.ft. 5-in. concrete with oil and sand surface, $37,500 lin.ft. concrete curbs, etc., from J. H. Shafer, 1640 Temple St., Los Angeles, $54,997; E. Shilling, 435 South Sichel St., Los Angeles, $61,000; Worswick Street Paving Co., Fresno, $63,000.

★**Cal., Palo Alto**—(Official)—City let contract paving 7-mi. road, concrete, to P. Coldwell, San Francisco, $142,000.

★**Calif., Sacramento**—State Highway Comn. let contract highways Nos. 3, 4, 6, 7, 8 and 9 including bridges and culverts to Clark & Henery Constr. Co., Ochsner Bldg., Sacramento, $118,113. Noted Apr. 5.

★**Cal., Yreka**—City let contract 3¾ mi. highway between Yreka and Scotts Valley to A. Anderson & Co., Grants Pass., Ore., $22,500.

RAILWAYS

STEAM AND ELECTRIC

Proposed Work

Mass., North Adams—Berkshire Street Ry., Pittsfield, will reconstruct its tracks on State and Union St. C. Q. Richmond, Pittsfield, gen. mgr.

N. Y., Utica—New York State Rys., (Utica lines), will improve lines in city. About $155,-815. B. E. Tilton, 325-239 Main St., gen mgr.

N. J., Newark—Hudson & Manhattan R.R., 30 Church St., New York, granted franchise by City Council to extend line from Military Park to terminal building of Public Service Ry., Broad and Bank St.

Pa., Darby—Southern Pennsylvania Traction Co., Chester, controlled by Wilmington & Philadelphia Traction Co., will reconstruct tracks from Darby to Eddystone, 5½-mi. W. A. Heidle, 603 Market St., Wilmington, Del., gen. supt.

Md., Baltimore—Western Maryland Ry making surveys for relocating portions of road from Baltimore to Cumberland, also additional tracks and double tracks between Highfield and Pen Mar, Highfield P. O. H. R. Pratt, Continental Trust Bldg., Baltimore, ch. engr.

Va., Graham—Chamber of Commerce, Bluefield, W. Va., is reported interested in plans for an electric railway from Graham to Welch, W. Va., 53 mi. via Pocahontas, Boissevain and North Fork, Va., and Bramwell, Keystone and Gary, W. Va. L. H. Duncan, secy.

Va., Norfolk—Norfolk & Portsmouth Belt Line R.R. plans to extend line from South Norfolk across eastern branch of Elizabeth River through Norfolk Co., to point near Elizabeth River and property of Virginia Terminal Co. G. S. Shafer, Port Norfolk, supt.

Ga., Atlanta—Georgia Railway & Power Co. plans to spend $700,000 during year for improvements, including new tracks and lines. G. W. Brine, Electric & Gas Bldg., Atlanta, gen. mgr. and vice-pres.

Ind., Jonesboro—Union Traction Co. of Indiana, Union Bldg., Anderson, will install block signal system between Jonesboro and Summitville. H. A. Nicholl, gen. mgr.

Ill., Effingham—Illinois Central R.R. plans line from Effingham to Golconda and Burlington Bridge, Metropolis. A. S. Baldwin, 135 East 11th Pl., Chicago, ch. engr.

Ill., Quincy—E. S. Woolner, 219 South Elizabeth St, Peoria, promoter of Chicago, Peoria & Quincy Traction Co., made proposition to citizens of Quincy to extend proposed interurban line from Peoria to Quincy through coal fields of Rushville; also that company be formed with $25,000 capital stock to pay preliminary expenses, same to be refunded after road is completed, in addition to bonus of like amount in stock in road.

Ill., Springfield—Springfield & Carbondale Ry. applied to Pub. Utilities Comn. of Illinois for permission to build line from Springfield to Carbondale. C. H. Forester, 76 West Monroe St., Chicago, pres.

Ia., Davenport—Tri-City Ry. of Iowa will extend car line on portion 17th St. Line may connect with Watch Tower line to form loop. J. G. Huntoon, 125 West 3rd. St., vice-pres. and gen. mgr.

Kan., Jefferson—Interstate Traction Co., Independence, recently organized, plans electric railway from point near Jefferson to Collinsville, Okla., via Tyro and Caney, Kan., and Copan, Dewey, and Bartlesville, Okla., about 8 mi.; later line will be extended to Nawata. A. W. Schulthies, Independence, pres.

Kan., Parsons—Missouri Kansas & Texas Ry. will replace 65-lb. rails with 85-lb. rails on line between Parsons, Kan., and Dewey, Okla., 58 mi. L. F. Lounbladh, Dallas, Tex., ch. engr.

Neb., Waverly—Chicago, Burlington & Quincy R.R. will double track line from Waverly to Ashland and take out big bend in road near Ashland; also cut directly across Salt Creek bottom taking out big curve and giving road more direct entrance into yards there. A. W. Newton, 547 West Jackson Blvd., Chicago, ch. engr.

N. D., Alta—Northern Pacific Ry. plans to lay 90-lb. steel rails between Alta and Berea (Valley City P. O.). H. E. Stevens, St. Paul, Minn., ch. engr.

N. D., Edinburg—Northern Dakota R.R. plans extending line from Edinburg to Concrete. About $300,000. J. F. Creiman, Concrete, secy., treas. and gen. mgr.

Mo., Mexico—(Official)—We have been advised that Chicago, Burlington & Quincy R.R. did not let contract extending line from Mexico to Kansas City to MacArthur Bros. Co., 208 South La Salle St., Chicago. Contemplated line will run from Mexico to Carrollton or Moberly, to get a Kansas City connection.

Ark., Ft. Smith—Ft. Smith Light and Traction Co., controlled by Standard Gas & Electric Co., is having surveys made extension to Jenny Lind and Greenwood. N. I. Garrison, mgr.

Okla., Skiatook—Claremore Commercial Club, Claremore, plans electric railway from Skiatook to Pryor, via Collinsville and Claremore, 40-mi.

Ariz., Clarkdale—Arizona Extension R.R. granted permission by State Corporation Comn. to issue $4,000,000 stock and $4,000,000 in bonds to build line from Clarkdale to Mesa, 160 mi. J. S. Douglas, Jerome, pres.

Ariz., Clarkdale—United Verde Copper Co. plans to extend its Verde Tunnel & Smelter R.R. from tunnel mouth to Jerome, 4 mi. T. C. Roberts, Clarkdale, ch. engr.

Cal., Fresno—Southern Pacific Co. having tentative plans prepared for switching yards and roundhouse. About $500,000. W. Hood, Flood Bldg., San Francisco, ch. engr.

Cal., Los Angeles—Pacific Electric Ry. received 40 year franchise from Bd. Supervs to construct and maintain electric railway along certain public roads and highways of Los Angeles County, consisting of standard-gage single and double-track spur over and across Covina Blvd. along Railroad Ave. and over and along Clark ... and Los Angeles St., single track spur over and across Covina Blvd. and along Railroad Ave. from north right-of-way of Pacific Electric Ry., Covina line to Alderson Ave., double track spur over and across Clark St. to Southern Pacific R.R.'s right-of-way, single track spur over and across Los Angeles St. J. McMillan, Pacific Electric Bldg., gen. mgr.

Cal., San Bernardino—Atchison Topeka & Santa Fe Ry. is reported to be considering line into Yucaipa Valley. F. M. Bisbee, Amarillo, Tex., ch. engr., western lines.

Man., Transcona—Transcona Electric Ry. made application to Manitoba Legislature to be incorporated with $1,000,000 capital stock, to build line in Transcona, Springfield and East Kildonan to Winnipeg or St. Biniface to connect with lines now in operation or to be built by Winnipeg Electric Ry. E. P. Garland, E. Frith, C. W. Chappell, R. Siderfin and L. Palk, all of Winnipeg, provisional directors.

Bids Desired

N. D., Mandan—(Official)—Until May 2 to H. J. Tavis, secy. bd. dir. of Manning, Mandan & Freda Ry. for preliminary survey to find most feasible and practical route for a steam railway; advertised in Apr. 12 issue.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Cal., Portersville**—Visalia Electric R.R. let contract 6-mi. roadbed about 4-mi. southeast of Portersville, 4½-mi. of which will be main line and 1½-mi. branch line to rock quarry, to O. Ford, Riverside.

EXCAVATION AND DREDGING

Proposed Work

N. Y., Sodus—Drainage—Wayne County plans draining 2000 acres land by straightening, enlarging and improving Salmon Creek, from Sodus Center to about 1-mi. above Joy and by improving and constructing other channels. Cost as follows: Rock excavation, $92,260; earth excavation, $33,000; bridge, $2000; laterals, $850. Address Clk., Wayne.

O., Portsmouth—Reclamation—P. G. Harper, city engr., prepared plans flood defense system to reclaim about 100 acres land.

Minn., Marshall—Ditches — (Official) — County prepared plans and estimates cost of ditches as follows: No. 30, tile, $36,349; No. 32, $32,667; No. 35, $8635; No. 38, $12,390; Judicial Ditch No. 31, open ditch and tile, $47,153. O. H. Stirk, Marshall, drainage engr.

Neb., Fremont—Ditch—Dodge County plans 3-mi. ditch, Blomendahl D. D. About $11,367. W. E. Barz., clk.

Ark., Arkadelphia—(Official)—Drainage—Ross D. D., Clark Co., making surveys in district comprising 30,000 acres, including about 30-mi. ditch. Estimate $125,000. W. E. Miller, Smithton, dir.

Tex., Beaumont—Canal—Nolte Irrigation Co. will construct canal system and install irrigation pumping plant. E. S. Nolte, Mone, stockholder.

Cal., Paradise—Dam, etc.—Paradise Irrigation Dist. soon lets contract dam and 30-mi. pipe lines. About $280,000. S. E. Kieffer, Mechanics' Institute Bldg., San Francisco, engr.

Bids Desired

N. J., Trenton—(Official)—Dredging—Until May 15 by State Bd. Commerce and Navigation, dredging section proposed Inland Waterway; advertised in this issue.

Ia., Emmetsburg—Drainage—Until Apr. 27 by Palo Alto County for D. D. No. 93, about 1400-ft. open ditch and 31,275-ft., tile. Former bids rejected. W. F. Eagan, audr.

Idaho Murphy—Dam and Canal System—Until Apr. 24 by J. F. Cook, secy., Murphy Irrigation Dist. completion Sinker Creek dam and canal.

Cal., Willows—(Official)—Canal—Until Apr. 27 by G. Nelson, engr. Central Jacinto Irrigation Project, Hotel Crawford, for 5¾-mi. of main canal; Sect. 1, 2.25-mi. 260,000 cu.yd. embankment, Sect, 2, 2.50-mi. 135,000-cu.yd. embankment; also furnishing and erecting 4 centrifugal pumps at site of proposed main pumping station at Sidds Landing, Glenn County.

Prices and Contracts Awarded

(★Indicates award of contract)

N. Y., Albany—(Official)—Barge Canal Work—W. W. Wotherspoon, supt. pub. wks., Capitol, received low bids, Apr. 10, Contract No. 178, Erie Canal, Sect. 9, movable dam, bulkhead, retaining walls and incidental work at Rochester; from Combined Constr. Co., Rochester, $321,115; MacArthur Bros. Co., 120 Broadway, New York, $378,574; Lupfer & Remick, Ellicott Bldg., Buffalo, $389,439.

★**Ind., Bluffton**—(Official)—Drain—County let contract Daniel C. Shoemaker, Drain, Nottingham

Excavation and Dredging (Continued)

Twp., to A. Ritenour, $19,750; furnishing tile to Bluffton Cement Products Co., $3499, both of Bluffton.

★Ia., **Hampton**—Ditch—County let contract Ditch No. 48 to England & Anderson, $13,914; furnishing tile to Lehigh Clay Products Co., Lehigh, $21,000.

★**Minn., Warren**—(Official)—Ditch—County let contract, Judicial Ditch No. 29, involving 386,227 cu.yd. excavation, to Union Drainage Co., Crookston, 9.70c. per cu.yd.

★Ind., **Windom**—County let contract Ditch No. 7 to Jensen & Norgard, $10,935.

S. D., **Clear Lake**—(Official)—Drainage—County received low bid Apr. 6, drainage ditch and laying tile, from Mijomo Bros., Sioux Falls, $15,978.

★Tex., **San Benito**—Canals, etc.—A. Brown let contract dredging canals, concrete, drainage and other work for irrigation system to W. E. Callahan Constr. Co., 1517 City Natl. Bank Bldg., Omaha, $225,000. Owner will also install irrigation pumping plant, 60-in. capacity, to deliver 100,000 gal. water per minute.

★**Okla., Sallisaw**—(Official)—Drainage—Sequoyah County D. D. No. 1 let contract to Sprankle Constr., Co., 603 American Natl. Bank Bldg., Oklahoma, $57,700.

★**Colo., Denver**—Ditches—County let contract 10 lateral ditches in connection with reclamation of 30,000 acres of agricultural land on Western Slope Dist. of Colorado to Gaffy & Keefe Constr. Co., 245 Kalamath St., $116,000.

INDUSTRIAL WORKS

Proposed Work

Mass., Gardner—Central Oil & Gas Co., 205 School St., plans 3 manufacturing buildings, 3-story, 60 x 177 ft., 60 x 105-ft. and 60 x 97-ft. R. E. Coolidge, 34 Chapin St., Southbridge, archt. will soon receive bids.

N. Y., College Point (Flushing P. O.)—See "Reinforced Concrete."

N. J., Newark—See "Reinforced Concrete."

N. J., Newark—General Electric Co., Boyd St. and 17th Ave., plans 4-story plant. J. H. & W. C. Ely, Firemen's Bldg., archts., preparing plans.

N. J., Paterson—I. A. Hall, 167 Hamilton Ave., plans 5-story, 62 x 175-ft. addition to mill. F. W. Wentworth, 140 Market St., archt., prepared plans.

N. J., West New York—Roussig Bros. plan 2-story, 80 x 189-ft., brick factory, Washington St. About $50,000. A. E. Dore, Jr., 650 Bergenline Ave., West New York, preparing plans.

Pa., Phila.—India Refining Co. plans 3-story addition to plant at Swanson and McKean St. W. C. Furber, 420 Walnut St., archt., preparing plans.

—Phila. Electric Co., 10th and Chestnut St., plans 1-story, 134 x 145-ft. substation, Fox St. and Hunting Park Ave.

—Treen Box Co., Tioga and Memphis St., plans 2-story, 60 x 100-ft. factory and 1-story, 30 x 60-ft. power house. W. E. S. Dyer, archt., 225 Harrison St., prepared plans.

—F. Weber & Co., 1125 Chestnut St., plans 5-story, 42 x 150-ft. factory. H. Miller, Crozer Bldg., archt., soon receives bids.

Pa., Wilkes-Barre—Vulcan Iron Works, Wilkes-Barre, plans additions. About $1,500,000.

Del., Wilmington—Bond Bottle Sealing Co. plans 5-story addition, 5th St. About $67,000.

Va., Alexandria—Alexandria Fertilizer & Chemical Co., c/o American Agricultural Chemical Co., State St., Boston, Mass., has had plans prepared for factory. About $70,000.

Ga., Thomasville—See "Streets and Roads."

O., Canton—Canton Metal House Co. has had plans prepared for a 1-story, 150 x 370-ft. factory. About $75,000.

O., Cleveland—Permanent Products Co. is having plans prepared for new factory and additions. Cost, including equipment, $1,000,000.

O., Osgood—See "Reinforced Concrete."

Wis., La Crosse—J. B. Funke Candy Co. plans addition to factory. About $50,000.

Wis., Milwaukee—Lee Valley Steel Co., c/o Chain Belt Co., 36 Park Ave., plans mill. W. E. Moore & Co., archts., Union Bank Bldg., Pittsburgh, prepared plans.

Wis., Sheboygan—American Manufacturing Co. plans 4-story, 70 x 180-ft. addition. W. C. Weeks, archt., preparing plans.

Ia., Ft. Dodge—Quaker Oats Co. plans 50 x 150-ft. brick and concrete warehouse, also remodeling other buildings, about $125,000, $100,000 respectively.

Ia., Sioux City—See "Reinforced Concrete."

Minn., St. Paul—Barrett & Zimmerman, Midway Horse Market, 1933 University Ave., plans 6-story, 150 x 200-ft., rein.-con. and brick warehouse, University and Prior Ave. About $150,000. S. E. Jacobson, archt., 601 Capitol Bank Bldg., preparing plans.

—Western Electric Co., 63 East 6th St., plans distributing plant, including 1-story, 100 x 210-ft. warehouse, Vandalia and Wabash St.

Kan., Topeka—See "Reinforced Concrete."

Tex., Beaumont—Lone Star Shipbuilding Co. plans plant. About $100,000.

Tex., Pharr—Pharr Mill and Elevator Co. will rebuild its alfalfa drier which was recently destroyed by fire. About $70,000.

Ore., Portland—Coast Shipbuilding Co., recently organized with $400,000 capital stock, plans plant. H. E. Pennel, pres.

Cal., Emeryville—See "Reinforced Concrete."

Cal., San Diego—G. W. Bush plans shipbuilding plant on tidelands. About $50,000.

Cal., San Francisco—Union Iron Works, 224 Spear St., plans addition to shipbuilding plant. About $5,000,000.

Ont., Toronto—Business System, Ltd., 52 Spadina Ave., plans 7-story, brick and mill factory. About $70,000.

—H. B. Johnston & Co., 137 River St., plans factory, Cornwall St. About $50,000.

Sask., Saskatoon—T. Eaton Co., Ave. D, N., plans 5-story warehouse. About $125,000. J. Woodman, archt., 302 Lindsay Bldg., Winnipeg, Man., preparing plans.

Bids Desired

W. Va., South Charleston—(Official)—Until May 1 by C. H. Higgins, archt., 165 Broadway, New York, for 5 buildings to be erected on Chesapeake & Ohio R.R. at South Charleston for E. C. Klipstein & Sons Co., 644 Greenwich St., New York. Buildings will be rein.-con with brick curtain walls, spread footings and steel sash; Bldg. No. 5, 2-story, 13 x 29-ft.; No. 6, 3-story, 49 x 120-ft.; No. 7, 3-story, 33 x 52-ft.; No. 8, 1½-story, with platform and awning, 22 x 46-ft.; No. 9, 1½-story, with platform and awning, 22 x 40-ft.

Mich., Detroit—Until Apr. 23 by A. A. Templeton, pres. Detroit Seamless Steel Tube Co., 841 West Jefferson St., 1-story, 400 x 700-ft. factory. About $100,000.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Mass., Lawrence**—Pacific Mills Corp. let contract 5-story addition to mill to L. E. Locke, Bay State Bldg.

★**N. Y., Brooklyn**—T. Houlston, 100 9th St., let contract brick storage building to G. F. Driscoll Co., 550 Union St., $60,000.

★**N. Y., New York**—J. M. Horton Ice Cream Co., 205-221 East 24th St., let contract 5-story annex to Stone & Reydel, 1370 Dean St., Brooklyn. Noted Apr. 5.

★—Locke & Co., 218 West 84th St., let contract 4-story, rein.-con. and brick factory, 56th St. and Ave. A, to J. A. Zimmerman & Son, Inc., 18 East 41st St., $100,000.

—O. Stahl, Inc., 2332 3rd Ave., let contract 4-story, brick, stone and granite packing plant, 2332 3rd Ave., East 126th St. and East 127th St. to Lustbader Constr. Co., 103 Park Ave.

—P. Weeks Estate Corp., c/o H. J. Hanigan, 2345 Broadway, let contract 5-story, brick and steel garage at 136 East 41st St., to Wells Constr. Co., 237 5th Ave., $60,000.

★**N. J., Elizabeth**—McManus Bros., 109 1st St., let contract 4-story warehouse, East Jersey St., to H. Wilhelms, 803 East Jersey St., $70,000.

★**Pa., Phila**—Electric Service Supply Co. let contract 3-story, 45 x 60-ft., brick, addition, Cambria St., to J. N. Gill, Otis Bldg., $60,000.

★—Gill Glass Co., York and Thompson St., let contract factory buildings, Tioga, Amber and Venango St., to W. R. Dougherty, 1608 Sansome St., $250,000.

★**Pa., Pottstown**—North American Motor Co., 158 Keim St., let contract factory and office building to F. H. Kaiser & Co., 128 East 4th St., $100,000.

★**Ind., Newcastle**—Indiana Rolling Mill will rebuild by day labor, 1-story, mill which was recently destroyed by cyclone. About $50,000. C. W. Mouch, pres.

★**Ill., Peoria**—American Milling Co., let contract concrete elevator to V. Jobst & Sons, 221 South Adams St., $300,000.

★**Ia., Council Bluffs**—Chicago & Northwestern Ry. let contract grain elevator to be leased to Updike Grain Co., 240 Omaha National Bank Bldg., to Witherspoon Englar Co., 53 West Jackson Blvd., Chicago, $1,000,000.

★**Neb., Omaha**—Kirchbaun & Sons, Inc., 1209 Howard St., let contract cold-storage plant and creamery, 9th and Dodge St. to R. Burke, 527 Paxton Blk., $200,000.

★**Wash., Mt. Vernon**—Dominion Commercial Co. let contract 1- and 2-story milk condensory to Finne & Gjarde, Northern Bank Bldg., Seattle $150,000.

Wash., Selah—See "Reinforced Concrete."

Cal., Emeryville—See "Reinforced Concrete."

★**Cal., Santa Paula**—(Official)—Santa Paula Citrus Assn. will build 2-story, rein.-con. and hollow tile, fruit packing house by day labor. About $50,000.

★**Ont., London**—Hunt Milling Co. let contract flour mills to G. A. Archibald Co., Toronto, $100,000.

★**Man., Winnipeg**—City Dairy Co., 234 Pritchard Ave., let contract plant to C. H. Aldinger, 1010 Union Bank Bldg., $150,000.

BUILDINGS

Proposed work

Conn., Westport—School—Bd. Educ. plans 2-story, Myrtle Ave. About $60,000. P. N. Sunderland, archt., Danbury, prepared plans.

N. Y., Albany—Hall—St. John's Evangelical Lutheran Congregation plans, 2½-story, 50 x 102-ft. About $60,000. Y. Brant, 166 Central Ave., pastor. Loth & White, 140 State St., archts.

N. J., Paterson—School Bd. Educ. plans P. S. No. 7, 3-story, 150 x 165-ft., brick and terra cotta, Dixon and Caldwell Ave. About $125,000. C. E. Sleight, Romaine Bldg., archt. preparing plans.

N. J., Perth Amboy—Schools—See "Streets and Roads."

Pa., Harrisburg—Theater—P. Magaro, Regent Theater, Market St., plans, 2-story. About $100,000. Hoffman Co., archts., Finance Bldg., Phila., soon receives bids.

Pa., Johnson City—School—Bd. Educ. plans, 3-story, brick. About $50,000. C. S. Adams and T. J. Nolan, archts., preparing plans.

Va., Newport News—Hotel—W. Livesey, Old Dominion Land Co., 23rd St. and West Ave., plans 1-story addition. About $50,000. Ferguson, Calrow & Wrenn, archts., Virginia Bank Bldg., Norfolk, soon receive bids.

S. C., Anderson—High School—Anderson School Dist. voted $80,000 bonds to build high school.

Ga., Brunswick—See "Streets and Roads."

Tenn., Knoxville—Y. M. C. A. plans building. About $78,000.

Ky., Ashland—Bank and Office—Ashland National Bank, 16th and Winchester St., plans, 4- to 8-story, 50 x 120-ft. About $300,000. G. W. Drach, Union Trust Bldg., Cincinnati, archt.

O., Cincinnati—School—Bd. Educ. plans Hoffman School on Woodburn Ave. About $200,000. S. Hannaford & Sons, Hubert Blk., archts., preparing plans.

O., Cleveland—Store and Hotel—W. McClure, 607 Garfield Bldg., plans, 5- or 6-story, rein.-con., brick and steel. About $350,000. H. T. Jeffrey, Union Bldg., archt.

—Bank—Cleveland Trust Co., Euclid Ave. and East 9th St., plans, 1-story, 80 x 87-ft. About $50,000. G. B. Post & Sons, archts., 101 Park Ave., New York, and Schofield Bldg., Cleveland, preparing plans.

O., Deshler—Grade and High School—Bd. Educ. plans. About $60,000. C. W. Beelman, 812 2nd Natl. Bank Bldg., Toledo, archt., preparing plans.

O., Dublin—Grade and High School—Bd. Educ. voted $50,000 bonds to build school, Washington Twp. E. E. Bonham, pres. Howard & Merriam, archts., 8 East Broad St., Columbus, preparing plans.

O., Hubbard—High and Grade School—Bd. Educ. plans election to vote on $110,000 bond issue to build 2-story high and grade school. A. J. Hammond, secy. Miller & Son, Dollar Bank Bldg., Youngstown, archts.

O., Norwalk—Grade and High School—Bd. Educ. plans, 2-story. About $115,000. C. C. Patterson, supt. J. E. Scott, archt.

O., Youngstown—Bank—Commercial Bank plans 1-story addition. About $100,000. C. C. Owsley, archt., Mahoning Bank Bldg., soon receives bids.

Ind., Elkhart—Bank—First Natl. Bank purchased site at Main and High St. for bank. About $60,000.

Ind., Lafayette—Office—Lafayette Life Insurance Co., Emsing Bldg., has had plans prepared by J. F. Alexander & Son, archts., Ball Blk., for 10-story, 51 x 121-ft., 3rd and Main St. About $250,000. Westcott Engr. Co., 111 West Washington St., Chicago, cons. engrs.

Ind., Laporte—High School—Bd. Educ. plans 2-story addition. About $50,000. A. Steigley, 57 West 73rd St. and W. G. Wuehrmann, 6954 Yale Ave., Chicago, archts., preparing plans.

Ind., New Haven—High School—Bd. Educ. plans, 100 x 100-ft. About $50,000. H. Meyer, Old Natl. Bank Bldg., Ft. Wayne, archt., prepared plans.

Ind., Terre Haute—School—Bd. Educ. has had plans prepared for Sarah Scott School. Bids will soon be received. About $125,000.

Buildings (Continued)

Ill., Chicago—Bank—North West State Bank, Milwaukee and North Aves., plans. About $100,000. O. Wenderoth, archt., 907 South Michigan Ave., prepared plans.

—Temple—Northern Masonic Temple Assn. plans, 2-story, on Winthrop Ave. About $150,000 or $175,000. F. M. Glennon, 911 Winona Ave., pres.

Wis., Racine—Armory—City plans, 2-story, 112 x 120-ft. About $50,000. A. A. Guilbert, archt., Robinson Bldg., soon receives bids. Noted Apr. 12.

Ia., Des Moines—Temple—Za Ga Ziz Temple of Mystic Shrine, plans, 3-story, brick. About $200,000. C. C. Deering, 622 9th St., Potentate. Keffer & Jones, 610 Youngman Bldg., archts.

Kan., Olathe—Memorial State plans, 2-story. About $200,000. Schumacher & Atkinson, archts., 520 Mayo Bldg., Tulsa, prepared plans.

Kan., Wichita—(Official)—Theater—J. H. Cooper lets contract in July. About $50,000. Boller Bros., 7 Gayety Theater Bldg., Kansas City, Mo., archts.

Neb., Omaha—Train Storage and Employees Hotel—Chicago North Western Ry. plans. About $150,000 each. W. H. Finley, Jackson Blvd. and Franklin St., Chicago, ch. engr.

S. D., Sioux Falls—Bank and Office—Sioux Falls Natl. Bank plans, 8-story, 44 x 106-ft. About $200,000. O. Wenderoth, archt., 1907 South Michigan Ave., Chicago, prepared plans.

Tex., Calvert—School—City to vote Apr. 25 on $60,000 bonds to build school.

Tex., Houston—School—City voted $225,000 bonds to build and improve schools.

Okla., Sapulpa—High School—City voted $100,000 bonds to build school. Total cost, $175,000. R. E. Jenness, clk.

Colo., Rocky Ford—School—City to vote May 7 on $100,000 bonds to build schools.

Utah, Ogden—School—City plans election to vote on $200,000 bonds to rebuild city schools.

Ariz., Bisbee—School—Bd. Educ. voted $100,000 bonds to build school.

Cal., Azusa—School—Azusa City School Dist. will vote Apr. 30 on $50,000 bonds to build school.

Cal., Imperial—School—School Bd. plans to issue $75,000 bonds to build school. G. C. Gale, interested.

Cal., Los Angeles—See "Reinforced Concrete."

Cal., Modesto—High School—Bd. Educ. plans. About $125,000. De Remer & Hewitt, archts., prepared plans.

Cal., Nevada City—See "Reinforced Concrete."

Cal., Richmond—Bath-house—City will hold election May 1 to vote on $70,000 bonds to build bath-house.

Bids Desired

Ky., Louisville (Official)—Auditorium—Until May 30 by D. X. Murphy & Bros., archts., Louisville Trust Bldg., for auditorium for city. About $250,000.

O., Tiffin—Church and Parish House—Until Apr. 26 by Fulton & Butler, archts., 51 West Main St., Uniontown, for 1½-story, 85 x 95-ft., for First Presbyterian Congregation. About $50,000.

O., Toledo—School—Until Apr. 30 by G. L. McKesson, business mgr., Bd. Educ., Linwood Ave., for Sherman Grade School. About $200,000. E. M. Gee, 1952 Franklin Ave., archt.

S. D., Huron—(Official—High School—Until about June 1 by Bd. Educ. for Junior High School, brick. About $100,000. G. C. Miller, Fullinwider & Dowling, 6 North Michigan Ave., Chicago, archts.

Mo., Kansas City—(Official)—Exchange—Until July 15 by W. O. Pennell, ch. engr., Southwestern Bell Telephone Co., Boatmen's Bank Bldg., St. Louis. About $850,000. I. R. Timlin, Jr., Boatman's Bank Bldg., St. Louis, archt.

Wash., Aberdeen—Grade School—Until Apr. 28 by Bd. Educ., 2-story, 140 x 260-ft. About $50,000. C. E. Troutman, Electric Bldg., archt.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Me., Brunswick**—Bank—First Natl. Bank of Brunswick let contract to O. Nelson, 94 Exchange St., Bangor, $75,000.

★**Mass., Boston**—Christian Endeavor Society, Tremont Temple, let contract 6-story building to W. A. & H. A. Root, Inc., 1 Beacon St., $100,000.

Mass., Dorchester—(Boston P. O.)—Bd. Educ. Boston, received low bids Sarah Greenwood School, Oliver-Wendell Holmes Dist., 2-story, 152 x 160-ft., brick and cut stone, from Murphy Constr. Co., 7 Water St., Boston, item 1, $282,100, alternate $274,950; Whiton & Haynes Co., 206 Devonshire St., Boston, item 1, $288,700, alternate, $278,000.

★**Mass., Springfield**—Hotel—W. Lay, 540 Bridge St., let contract, 4-story, to E. F. Carlson Co., 310 Main St., $175,000.

★**Conn., Hartford**—(Official)—Store—G. Fox & Co., Main St., let contract, 11-story, to J. Stewart Co., 30 Church St., New York, $1,000,000.

★**Conn., Waterbury**—School—Bd. Educ. let contract addition to Webster School to G. S. Chatfield Co., 73 Canal St.

★**Conn., Williamantic**—Office and Store—Jordan Bros. let contract, 5-story, 100 x 104-ft., on Main St., to Torrington Bldg. Co., 197 Water St., Torrington, $150,000. Noted Apr. 12.

★**N. Y., New York**—Hotel, Apartment House, Studio and Workshop—Penrhyn Stanlaws, 33 West 67th St., let contract, 15-story, to F. T. Ley, 52 Vanderbilt Ave., $600,000.

★**N. Y., Oswego**—Church—St. Mary's Congregation let contract to P. Raby, 23 West Cayuga St., $150,000.

★**N. Y., Schenectady**—Trustees Union College let contract 3-story science building to Amsterdam Bldg. Co., 140 West 42d St., New York.

★**Pa., Phila.**—School and Church—First Christion Church Congregation let contract, 1-story, to P. Barthwick, 8018 Germantown Ave., $125,000.

★**Pa., South Bethlehem**—School—Bethlehem School Dist. let contract to J. Nagle, 112 South 12th St., $60,000.

★**Del., Wilmington**—Hotel and Office—E. I. du Pont de Nemours & Co., du Pont Bldg., let contract, 13-story, to Realty Constr. Co., du Pont Bldg., $600,000.

★**W. Va., Bluefield**—Theater and Arcade—S. E. Matz, Covington, let contract, 2-story, to Graham Constr. Co., Graham, Va., $100,000.

★**O., Lancaster**—Grade School—Bd. Educ. let contract to P. Shanahan, 857 Penn Ave., Columbus, $82,600.

★**O., Troy**—(Official)—School—Bd. Educ., Bethlehem Township, Rural School Dist., let contract to A. M. Fry, Piqua, $98,739.

★**Ind., Ft. Wayne**—Office—S. F. Bowser & Co. let contract to Westinghouse, Church & Kerr Co., 37 Wall St., New York, $350,000.

★**Wis., Platteville**—High School—Joint School Dist. No. 4 let contract to Bailey & Marsh, 725 Metropolitan Life Bldg., Minneapolis, $100,000.

★**Ia., Estherville**—Theater, Store and Office—H. H. Graff let contract to Madsen & Peterson, St. Paul, $150,000.

★**Kan., Clay Center**—Bank—Peoples Natl. Bank let contract, 1-story, brick, stone and terra cotta, to J. A. Black, Clay Center, $40,000.

Ark., Pine Bluff—School—See "Reinforced Concrete."

★**Cal., Fresno**—Hospital—(Official)—County let contract 2-story, brick and concrete addition to county hospital to Manning Bros., Fresno, $55,850.

—Mausoleum—I. O. O. F. lodge let contract, 60 x 150-ft. rein.-con., granite and marble, to E. M. Wheatland, Whittier, and A. H. Gregg, $150,000.

★**Cal., Sacramento**—Addition—Physicians Building Co. let contract 5-story addition to G. D. Hudnutt, California Fruit Bldg., $100,000.

FEDERAL GOVERNMENT WORK

Proposed Work

Pier—N. H., Portsmouth—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., preparing plans pier for fitting out slip. About $15,000.

Tower—Fla., Pensacola—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., preparing plans observation tower, Naval Aëronautical Station. About $15,000.

Bids Desired

Buildings—Pa., Ft. Mifflin—(Phila. P. O.)—Until May 7 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., 3 magazines and 1 shell house.

Concrete Piers and Abutments—Wash. D. C.—Until Apr. 30 by U. S. Engr. Office, Room 305, Southern Bldg., for Key Bridge across Potomac River; advertised in this issue.

Pipe Line—N. C., Ft. Caswell—Until May 7 by Constructing Quartermaster for about 952-ft. submerged water pipe line between Southport and Ft. Caswell; advertised in this issue.

Post Office—Ga., Fitzgerald—Until May 16 by J. A. Wetmore, superv. archt., Treasury Dept., Wash.; advertised in Apr. 12 issue.

Crane—La., New Orleans—Until May 7 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., 20-ton floating crane. Noted Apr. 12.

Post Office—Tenn., Athens—Until May 16 by J. A. Wetmore, superv. archt., Treasury Dept., Wash.; advertised in Apr. 12 issue.

Breakwater and Riprap—O., Cleveland—Until May 11 by U. S. Engr. Office, Cleveland, repairing rubble mound cast breakwater and placing riprap in front of west breakwater at Cleveland Harbor; advertised in this issue.

Cement—O., Lowell—Until Apr. 26 by W. P. Stokey, Major, Corps of Engrs., U. S. A., Dist. Engr. Office, 2nd Dist., Room 415, Custom House, Cincinnati, furnishing and delivering 6000 bbls. American portland cement for use at Dam No. 7, Muskingum River.

Repairing Revetment—Mich., Detroit—Until May 19 by U. S. Engr. Office, Detroit, repairing wooden pile revetment of cast dike at St. Clair Flats Canal; advertised in this issue.

Revetment—Mo., Kansas City—Until May 8 by U. S. Engr. Office, Kansas City, about 8000 ft.; advertised in this issue.

Levee Work—Mo., St. Louis—Until Apr. 30 by Secy., Mississippi River Comm., 1311 International Life Bldg., St. Louis, 110,000 cu.yd. earthwork in Riverland Levee Dist.

Post Office—Tex., El Paso—Until May 18 by J. A. Wetmore, superv. archt., Treasury Dept., Wash.

Prices and Contracts Awarded

(★Indicates award of contract)

Cranes—Pa., Phila.—See "Norfolk, Va."

★**Shop—Pa., Phila.**—Bureau Yards and Docks, Navy Dept., Wash., let contract machine and electrical shop at Phila. Navy Yard to McClintic-Marshall Co., 1421 Chestnut St., $288,437.

★**Bridge—Wash., D. C.**—Dist. Comrs., Room 509 Dist. Bldg., let contract concrete bridge on Military Rd. to C. R. Tompkins, 1883 3d St., N.W., $32,000.

★**Building**—Dist. Comrs., Room 509 Dist. Bldg., let contract fish market and appurtenant buildings to Warren Moore & Co., Commercial Trust Bldg., Phila., $115,544. Noted Apr.

★**Gun Shop**—Bureau Yards and Docks, Navy Dept., Wash., let contract Washington Navy Yard, to J. H. Miller, Inc., Eutaw and Franklin Sts., Baltimore, $659,520.

Paving—Dist. Comrs., Room 509 Dist. Bldg., received low bid grading and paving alleys from Washington Asphalt Block & Tile Co., 1118 G St., N.W., grading 95c. per cu.yd.; paving on 4-in. base, $1.15 per sq.yd.; vitrified block on 4-in. base, $1.25 per sq.yd.

★**Crane Runway—Va., Norfolk**—Bureau Yards and Docks, Navy Dept., let contract, for shipbuilding slip at Norfolk Navy Yard, to McClintic-Marshall Co., 1421 Chestnut St., Phila., $427,348.

Cranes—Bureau Yards and Docks, Navy Dept., Wash., received only bid, Apr. 9, 2 electrically operated locomotive jib cranes of 50 gross tons capacity at Navy Yards, Norfolk, Va., and Phila., Pa., from Penn Bridge Co., Bond Bldg., Wash., Norfolk, $102,340; Phila., $101,340; both, $201,530.

Shipbuilding Crane—S. C. Charleston—Bureau Yards and Docks, Navy Dept. Wash., received only bid, Apr. 9, from McMyler Interstate Co., Bedford, O., Government specifications, $25,715; bidders specifications, $22,140.

Post Office—La., Alexandria—J. A. Wetmore superv. archt., Treas Dept., Wash., received only bid from W. P. Hudson, Alexandria, $70,000.

Sewage Pumping Plant—La., New Orleans—Bureau Yards and Docks, Navy Dept., Wash., received low bids, at Naval Station, (a) work complete; (b) addition in price for automatic control of motors, (c) work complete, in accordance with bidders modification, from Carroll Electric Co., 714 12th St., Wash., (a) $16,649; (b) add $250; (c) $15,649; A. M. Lockett & Co., 533 Baronne St., New Orleans, (c) work complete with automatic or hand controllers, $18,102; H. W. Bond & Bro., New Orleans, (a) $17,146; (b) add $200; Hampton Reynolds, Maison Blanche Bldg., New Orleans, (a) $18,571; (b) $18,971.

★**Post Office—O., Coshocton**—J. A. Wetmore, superv. archt., Treas. Dept., Wash., let contract to J. G. Unkefer & Co., Minerva, $69,720.

Dredging—Minn., Duluth—U. S. Engr. Office Duluth, received low bids dredging, Duluth-Superior Harbor, Minn., and Wis., from A. E. Breymann, Toledo, $368,970; Great Lakes Dredge & Dock Co., 15th Floor, Alworth Bldg., Duluth, $377,520; Duluth-Superior Dredging Co., Duluth, $377,520; Zenith Dredge Co., 303 Glencoe Bldg., Duluth, $384,780.

Earthwork, etc.—Wyo., Ft. Laramie—U. S. Rec. Ser., Ft. Laramie, let contract earthwork and structures, Ft. Laramie Canal, North Platte Irrigation Project, Nebraska-Wyoming, Schedules 1, 2, 3, 4 and 6, to Winston Bros. Co., 802 Globe Bldg., Minneapolis, $217,845; Schedules 5 and 7 to MacArthur Bros. Co. 120 Broadway, New York, $243,966.

★**Laterals—Wyo., Powell**—U. S. Rec. Ser. let contract earthwork on second unit, Frannie Division laterals, Shoshone Irrigation Project, Schedule 1 to H. S. Jolley, Lovell, $7670, Schedule 2, D. Lewis, Cowley, $10,610, Schedule 3, Tebbs & Taggart, Cowley, $19,700, Schedule 4, N. O. Mortensen, Cowley, $9440. Noted Apr. 12.

Reclamation—Mont., Ft. Shaw—U. S. Rec. Ser., Ft. Shaw, received only bid, Mar. 29, canals and structures on Sun River Project from Hayden Bros., Great Falls, $38,502.

★**Revetment—Mo., Kansas City**—U. S. Engr. Office, Kansas City, let contract, on Missouri River at Fishing River Bend to Kansas City Bridge Co., 510 Orear-Leslie Bldg., $194,854.

MISCELLANEOUS

Proposed Work

River Improvements—Mass., Boston—State appropriated $3,500,000 towards improving Merrimack River on condition that Federal Government provide similar amount.

Mezzanine Platform—N. Y., New York—Interborough Rapid Transit Co. will construct wide mezzanine to connect mezzanines at 40th St. and near 42nd St. over Times Sq. express station on Broadway subway. About $150,000. Pub. Ser. Com., 1st Dist., approved plans. F. Hedley, 165 Broadway, vice pres. and gen. mgr.

Inlet—N. J., Belmar—State Legislature appropriated $19,000 for improvements to inlet.

Garbage Plant—N. J., Bridgeton—(Official)—We have been advised that city does not plan garbage plant. W. Bacon, city engr. Noted Apr. 6.

Park Improvements—N. J., Perth Amboy—See "Streets and Roads."

Flood Protection—Pa., Erie—(Official)—City appropriated $225,000 for flood protection tunnels for east and west branches Garrison Run, not $850,000 as stated in our issue of Apr. 5. F. G. Lynch, engr.

Garbage Trucks and Fire Equipment—Pa., Steelton—City Council plans to purchase. About $25,000. C. H. Hoffer, engr.

Docks, etc.—Va., Sewalls Point—Dock Comm., Norfolk, retained W. W. Gwathmey, c/o Gwathmey Eng. Co., Norfolk, as advisory engr. and B. F. Cresson, Jr., New York, as cons. engr. for docks, ware houses, etc., at Bush Bluff, Sewalls Point. Contract will soon be let for 1st unit pier, 150 x 1000-ft.

Transmission Line—W. Va., Morgantown—West Virginia Traction & Electric Co., (Morgantown division), will erect 13,000-volt cross-country transmission line to supply power for coal mining. J. K. Buchanan, Morgantown, gen. mgr.

Fire Alarm System—Ga., Thomasville—See "Streets and Roads."

Wharf—Tenn., Chattanooga—E. Bass, comr., Dept. Streets and Sewers, is preparing plans.

Steam Roller, Etc.—Tenn., Loudon—County plans to purchase steam roller, rock crusher and tank wagon.

Park—O., Akron—Park Dirs. plans developing Silver Lake Park, for which $100,000 has already been subscribed. J. A. Gehres, city engr.

Park—O., Urbana—State Legislature appropriated $30,000 to improve Indian Lake Park. E. F. Sweetman, city engr.

Transmission Line—O., Youngstown—Youngstown & Sharon Street Ry. plans extending transmission line from Youngstown to Libson. E. H. Reil, 25 East Boardman St., mgr. of lighting.

Wharf—Tex., Houston—City acquired 20 acres land on Houston Ship Canal and plans wharf and 100 x 500-ft. rein.-con. wharf shed; apron about 500-ft. long, creosoted piling or other material. About $300,000. E. E. Sand, engr.

Dam—Tex., San Angelo—San Angelo Water, Light and Power Co. granted permission to build, across Concho River, 14-ft. high for muncipal and domestic purposes.

Retaining Wall—Ariz., Clifton—See "Structural Steel."

Harbor Improvements—Ore., Newport—(Official)—County to vote May 1 on $800,000 bonds to improve Yaquina Bay. Address Co. Clk., Toledo.

Park Improvements—Cal., Riverside—Park Bd. plans election to vote on $30,000 bonds to improve parks including building Indian Village, etc. A. P. Campbell, city engr.

Dam—Cal., San Diego—See "Reinforced Concrete."

Bids Desired

Earth Dam—Mass., Fitchburg—(Official)—Until Apr. 26 by Bd. Water Comrs., City Hall; advertised in this issue.

Coal—N. Y., Albany—(Official)—Until Apr. 27 by Pur. Com. for State Hospitals, Room 138, Capitol, furnishing anthracite coal; advertised in this issue.

Ties and Timber—N. Y., New York—Until May 2 by Pub. Ser. Comn., 120 Broadway, supply of untreated ties and timber for use in construction of rapid transit railways. O. S. Straus, chn.

Dump Carts—N. J., Jersey City—Until Apr. 24 by City Comn., furnishing and delivering 25 steel dump carts. M. I. Fagen, clk.

Garbage Furnace—Pa., Braddock—(Official)—Until Apr. 30 by W. H. Williams, supt. pub. wks., Municipal Bldg.; advertised in this issue.

Wharf—Va., Richmond—(Official)—Until June 1 by L. Rose & Co., 420 Brook Ave., 500-ft. wooden open wharf in connection with warehouse to be built for steel billets. About $10,000. F. Sternheimer, mgr. Noted Apr. 5.

Engineering Instruments—S. C., Columbia—(Official)—Until Apr. 21 by J. R. Pennell, state highway engr.; advertised in Apr. 12 isssue.

Retaining Wall—Mo., Kansas City—See "Reinforced Concrete."

Prices and Contracts Awarded

(★Indicates award of contract)

★Culverts—Minn., Buffalo—(Official)—County let contract furnishing various sizes of corrugated culverts until July, 1917, to Lyle Corrugated Culvert Co., 171 27th Ave., S. E. Minneapolis.

★Culverts—Minn., Thief River Falls—(Official)—County let contract furnishing corrugated metal culverts or sectional concrete culverts for 1917 to Lyle Corrugated Culvert Co., 171 27th Ave., S. E., Minneapolis.

Proposals

For Proposals Advertised See Pages
62-63-64-65-66-67

WATER-WORKS

Bids Close.		See Eng. News-Record
Apr. 25.	Rayne, La.	Apr. 5
Apr. 23.	Winona, Minn.	Apr. 19
Apr. 23.	Gouda Springs, Kan.	Apr. 19
Apr. 23.	Dyersburg, Tenn.	Apr. 19
Apr. 23.	Wadena, Minn.	Apr. 19
Apr. 24.	Trenton, N. J.	Apr. 12
Apr. 24.	Michigan City, Ind.	Apr. 19
Apr. 25.	Westchester, Pa.	Apr. 12
Apr. 26.	New York, N. Y.	Apr. 19
Apr. 27.	Auburn, N. Y. Adv. Apr. 5.	Apr. 5
Apr. 30.	Evanston, Ill.	Apr. 19
May 1.	Mendham, N. J.	Apr. 5
May 2.	Milwaukee, Wis. Adv. Apr. 12.	Apr. 19

SEWERS

Apr. 23.	Winona, Minn.	Apr. 19
Apr. 23.	Sedro Wooley, Wash.	Apr. 19
Apr. 23	North Bay, Ont.	Apr. 19
Apr. 23.	Broken Arrow, Okla.	Apr. 19
Apr. 23.	Hanover, Pa.	Apr. 12
Apr. 23.	Winona, Minn.	Apr. 12
Apr. 24.	Ottawa, Ont.	Apr. 19
Apr. 24.	Barberton, O.	Apr. 5
Apr. 27.	Valparaiso, Ind.	Apr. 5
Apr. 23.	Bedford, Ia.	Apr. 19
May 4.	Centerburg, O. Adv. Apr. 19.	Apr. 19
May 7.	White Plains, N. Y.	Apr. 19
May 25.	Lakewood, O. Adv. Apr. 19.	Apr. 19

STRUCTURAL STEEL WORK

Apr. 21.	Winchester, Ill.	Apr. 12
Apr. 23.	Elizabeth, N. J.	Apr. 12
Apr. 23.	Marion, Ia.	Apr. 19
Apr. 24.	Plymouth, Mass.	Apr. 19
Apr. 24.	Johnstown, Pa. Adv. Apr. 19.	Apr. 19
Apr. 25.	Boston, Mass.	Apr. 19
Apr. 27.	Lockhart Mills, S. C.	Apr. 19
Apr. 30.	Leavenworth, Kan.	Apr. 12
May 7.	New York, N. Y.	Apr. 19
May 10.	Huntington, W. Va.	Apr. 19
May 10.	Wahpeton, N. D.	Apr. 19

REINFORCED CONCRETE

Apr. 20.	Massena, N. Y. Adv. Apr. 19.	Apr. 19
Apr. 21.	La Junta, Colo.	Apr. 19
Apr. 23.	Wilkes-Barre, Pa.	Apr. 19
Apr. 23.	Lancaster, Pa. Adv. Apr. 19.	Apr. 19
Apr. 24.	Kansas City, Mo.	Apr. 19
Apr. 26.	La Fayette, Ala.	Apr. 19
May 1.	Downington, Pa.	Apr. 12
May 3.	Kingwood, W. Va.	Apr. 19
May 5.	Bethany, W. Va.	Apr. 19
May 7.	Merced, Cal.	Apr. 19
May 7.	Logan, W. Va.	Apr. 19
May 8.	Visalia, Cal.	Apr. 19
May 15.	Hazard, Ky.	Apr. 12

STREETS AND ROADS

Apr. 20.	New York, N. Y.	Apr. 19
Apr. 20.	Otonagon, Mich. Adv. Apr. 19.	Apr. 19
Apr. 21.	New Albany, Ind.	Apr. 12
Apr. 21.	Morris, Minn.	Apr. 5
Apr. 23.	Everett, Wash.	Apr. 12
Apr. 23.	South Bethlehem, Pa. Adv. Apr. 5.	Apr. 5
Apr. 23.	Newbern, N. C.	Apr. 19
Apr. 23.	Bedford, Va.	Apr. 19
Apr. 23.	New Cumberland, W. Va.	Apr. 19
Apr. 24.	Franklin, Va.	Apr. 5
Apr. 24.	Cambridge, O.	Apr. 12
Apr. 24.	Denton, Md.	Apr. 19
Apr. 24.	Jersey City, N. J.	Apr. 19
Apr. 24.	Bayonne, N. J.	Apr. 19
Apr. 24.	Hartford, Conn.	Apr. 19
Apr. 24.	Wilkes-Barre, Pa. Adv. Apr. 19.	Apr. 19
Apr. 25.	Blue Earth, Minn.	Apr. 5
Apr. 25.	Alexandria, O.	Apr. 5
Apr. 25.	Cleveland, O.	Apr. 19
Apr. 26.	Elly, Nev.	Apr. 19
Apr. 26.	Winchester, Ind.	Apr. 19
Apr. 26.	Brooklyn, N. Y.	Apr. 19
Apr. 27.	Clarksburg, W. Va.	Apr. 19
Apr. 27.	Clintonville, Wis.	Apr. 19
Apr. 27.	Fairmont, W. Va. Adv. Apr. 19.	Apr. 19
Apr. 27.	Beallsville, O.	Apr. 19
Apr. 30.	Grove Hill, Ala.	Apr. 5
Apr. 30.	Montesano, Wash.	Apr. 19
Apr. 30.	Greenville, Tenn.	Apr. 19
Apr. 30.	Knoxville, Tenn.	Apr. 19
May 1.	Baltimore, Md. Adv. Apr. 19.	Apr. 19
May 1.	Albany, N. Y. Adv. Apr. 19.	Apr. 19
May 1.	Lewisburg, Va.	Apr. 19
May 1.	San Juan Capistrano	Apr. 19
May 2.	Lancaster, O.	Apr. 19
May 3.	Barnesville, Ga. Adv. Apr. 19.	Apr. 19
May 4.	Beckley, W. Va. Adv. Apr. 19.	Apr. 19
May 7.	Mountain City, Tenn.	Apr. 19
May 7.	Indiana, Ind.	Apr. 19
May 8.	Vincennes, Ind. Adv. Apr. 19.	Apr. 19
May 8.	Wenatchie, Wash.	Apr. 19
May 8.	Bloomfield, Ind.	Apr. 19
May 8.	Roxboro, N. C.	Apr. 19
May 8.	Pickers, N. C.	Apr. 19
May 14.	Oil City, Pa. Adv. Apr. 19.	Apr. 19

RAILWAYS

May 2.	Mandan, N. D. Adv. Apr. 19.	Apr. 19

EXCAVATION AND DREDGING

Apr. 24.	Parkertown, N. J.	Apr. 5
Apr. 24.	Murphy, Idaho	Apr. 19
Apr. 25.	Emmetsburg, Ia.	Apr. 19
Apr. 25.	Winterset, Ia.	Apr. 12
Apr. 25.	Willows, Cal.	Apr. 19
May 1.	Quincy, Ill. Adv. Apr. 5.	Apr. 5
May 15.	Trenton, N. J.	Apr. 19

BUILDINGS

Apr. 23.	Kahoka, Mo.	Apr. 12
Apr. 28.	Aberdeen, Wash.	Apr. 19
Apr. 28.	Stratford, Conn.	Apr. 19
Apr. 30.	Toledo, O.	Apr. 19
Apr. 30.	Louisville, Ky.	Apr. 19
May 15.	Fulton, Mo.	Apr. 12
July 15.	Kansas City, Mo.	Apr. 19

INDUSTRIAL WORKS

Apr. 23.	Detroit, Mich.	Apr. 19
May 1.	St. Charleston, W. Va.	Apr. 19

FEDERAL GOVERNMENT WORK

Apr. 21.	Wash., D. C. Adv. Apr. 5.	Apr. 5
Apr. 23.	Norfolk, Va.	Apr. 12
Apr. 23.	Portland, Me. Adv. Apr. 5.	Apr. 5
Apr. 23.	Indian Head, Md.	Apr. 5
Apr. 23.	Wash., D. C.	Apr. 5
Apr. 23.	Pensacola, Fla.	Apr. 5
Apr. 25.	Little Rock, Ark. Adv. Apr. 5.	Apr. 5
Apr. 26.	Lowell, O.	Apr. 19
Apr. 27.	Portland, Me.	Apr. 5
Apr. 30.	Wheeling, W. Va. Adv. Apr. 5.	Apr. 5
Apr. 30.	Dallas, Tex. Adv. Apr. 5.	Apr. 5
Apr. 30.	Washington, D. C. Adv. Apr. 19.	Apr. 19
Apr. 30.	St. Louis, Mo.	Apr. 19
May 1.	Sault Ste. Marie, Mich. Adv. Apr. 5.	Apr. 5
May 1.	Powell, Wyo. Adv. Apr. 5.	Apr. 5
May 2.	Narragansett Pier, R. I.	Apr. 12
May 3.	Port Huron, Mich. Adv. Apr. 5.	Apr. 5
May 3.	New York, N. Y.	Apr. 12
May 4.	Chattanooga, Tenn. Adv. Apr. 5.	Apr. 5
May 7.	Beaver Dam, Wis.	Apr. 5
May 7.	Pearl Harbor, Hawaii	Apr. 5
May 7.	Ft. Caswell, N. C. Adv. Apr. 19.	Apr. 19
May 7.	Ft. Mifflin, (Philadelphia P. O.)	Apr. 19
May 7.	New Orleans, La.	Apr. 19
May 8.	Media, Pa.	Apr. 12
May 9.	Kansas City, Mo.	Apr. 19
May 10.	Detroit, Mich. Adv. Apr. 19.	Apr. 19
May 11.	Boise, Idaho	Apr. 5
May 11.	Cleveland, O. Adv. Apr. 19.	Apr. 19
May 15.	Bolinas, Cal. Adv. Apr. 5.	Apr. 5
May 16.	Fitzgerald, Ga. Adv. Apr. 12.	Apr. 19
May 16.	Athens, Tenn. Adv. Apr. 12.	Apr. 19
May 17.	Cedar Falls, Ia.	Apr. 12
May 18.	El Paso, Tex.	Apr. 19

MISCELLANEOUS

Apr. 23.	Stillwater, Minn.	Apr. 5
Apr. 23.	Garbage Disposal—Salem, N. J.	Apr. 19
Apr. 24.	Dump Cars—Jersey City, N. J.	Apr. 19
Apr. 25.	Pikeville, Ky.	Apr. 5
Apr. 26.	Dam—Fitchburg, Mass. Adv. Apr. 19.	Apr. 19
Apr. 27.	Coal—Albany, N. Y. Adv. Apr. 19.	Apr. 19
Apr. 30.	Garbage Furnace—Braddock, Pa. Adv. Apr. 19.	Apr. 19
May 2.	Toes and Timber—New York City	Apr. 19
May 7.	Pine Bluff, Ark.	Apr. 5
June 1.	Wharf—Richmond, Va.	Apr. 19

SUBWAY, PHILADELPHIA, PA.

Contract No. 104

W. S. Twining, Dir. Dept. City Transit, 754 Bourse Bldg., received bids, Apr. 3, section Delivery Loop Subway in Broad St. from (A) Philadelphia Subway Constr. Co., 712 Lincoln Bldg.; (B) Keystone State Constr. Co., 704-9 Pennsylvania Bldg.; (C) Smith, Hauser & Mac Isaac, Inc., [illegible] East 41st St., New York; (D) Underpinning & Foundation Co., 290 Broadway, New York; (E) E. E. Smith Constr. Co., Long Island City, N. Y.; [illegible] Dock Contr. Co., 95 River St., Hoboken, N. J. The item bids were as follows:

	A	B	C	D	E	F
315,000 cu.yd. excavation above elevation zero	4 81	4 55	5 70	3 60	4 90	4 40
100 cu.yd. excavation below elevation zero	6 00	6 00	1 00	4 00	4 90	7 00
100,000 ft.b.m. yellow pine lumber	55 00	110 00	50 00	50 00	60 00	50 00
Underpinning:						
1,100 ft. front, buildings 5 stories or less in height	75 00	40 00	62 00	60 00	50 00	60 00
200 ft. front, buildings over 5 and less than 10 stories in height	175 00	50 00	136 00	160 00	100 00	100 00
210 ft. front, buildings 10 stories or over in height	175 00	75 00	136 00	200 00	125 00	140 00
500 cu.yd. additional masonry for underpinning	18 00	8 00	16 50	10 00	1 00	12 00
Concrete Masonry:						
100 cu.yd. Class A-1:1:3	20 00	40 00	14 70	12 50	16 00	12 00
39,500 cu.yd. Class B-1:2:4	10 50	12 00	13 47	12 00	12 25	10 40
2,750 cu.yd. Class C-1:3:6	10 00	11 50	13 00	11 00	11 00	9 50
500 cu.yd. Class D-1:4:8	9 00	11 00	10 10	10 00	10 00	9 00
2,000 sq.ft. reinforced concrete sheathing	1 00	1 00	50	2 00	1 00	60
500 cu.yd. brick masonry	16 00	30 00	19 20	18 00	20 00	15 00
200 cu.yd. hollow terra cotta brick masonry	16 00	25 00	14 00	18 00	20 00	15 00
200 cu.yd. rubble masonry	8 00	15 00	10 10	9 00	11 00	3 00
1,400 sq.yd. citrified shale brick sewer lining	2 50	3 00	2 00	3 00	3 00	2 50
100 sq.yd. granite block sewer lining	3 50	3 00	2 50	3 00	3 00	3 00
Building New Manholes and Wellholes:						
28 manholes	140 00	150 00	85 00	130 00	150 00	60 00
150 vert.ft. wellholes	6 50	12 00	8 00	9 00	11 25	6 00
Building New Inlets:						
5 No. 1 inlets	120 00	200 00	135 00	150 00	150 00	100 00
5 No. 2 inlets	100 00	200 00	115 00	140 00	150 00	100 00
5 No. 3 inlets	85 00	200 00	93 00	125 00	150 00	100 00
5 No. 4 inlets	75 00	200 00	60 00	115 00	150 00	50 00
Taking Out and Rebuilding Inlets:						
15 inlets having standard pattern casting	60 00	150 00	60 00	125 00	125 00	40 00
5 inlets having old pattern casting to be replaced by standard	75 00	200 00	60 00	150 00	125 00	40 00
Flagstones:						
100 sq.ft. 2-in. thickness	50	50	40	30	40	40
100 sq.ft. 4-in. thickness	60	80	60	50	80	60
100 sq.ft. 6-in. thickness	75	1 50	80	75	1 00	80
100 cu.yd. dry rubble masonry or riprap	5 00	15 00	4 00	6 00	10 00	2 00
300 cu.yd. broken stone or gravel for drains	3 00	2 50	2 50	2 50	3 75	2 00
2,000 bags cement grout	1 00	1 00	70	1 10	1 00	1 25
7,800 sq.yd. granolithic finish	1 40	1 50	1 00	1 75	2 25	1 00
Fabric Waterproofing:						
1,000 sq.yd. 1-ply in asphaltic compound	85	1 50	1 00	70	1 20	70
500 sq.yd. 2-ply in asphaltic compound	1 50	2 50	1 55	1 00	2 20	1 10
500 sq. yd. 3-ply in asphaltic compound	2 00	3 50	2 11	1 40	2 55	1 50
500 sq.yd. 4-ply in asphaltic compound	2 50	4 50	2 25	1 80	3 35	1 90
1,000 sq.yd. 1-ply in coal tar pitch	85	1 00	95	65	1 00	70
500 sq.yd. 2-ply in coal tar pitch	1 50	1 50	1 50	95	1 70	1 10
500 sq.yd. 3-ply in coal tar pitch	2 00	2 00	2 03	1 30	2 40	1 50
500 sq.yd. 4-ply in coal tar pitch	2 50	2 75	2 25	1 60	3 10	1 90
3,000 sq.yd. 1-ply dry roofing felt	50	60	25	60	48	40
30,000 sq.yd. asphaltic mastic waterproofing	2 00	2 25	2 16	2 00	2 00	1 70
Brick in Waterproofing Compound:						
100 cu.yd. in asphaltic compound	30 00	35 00	35 00	28 00	36 00	29 00
100 cu.yd. in coal tar pitch	30 00	35 00	33 00	26 00	30 00	29 00
Vitrified Clay Pipe:						
3,100 lin.ft. 4-in.	40	50	27	40	40	30
2,000 lin.ft. 5-in. or 6-in.	55	60	39	50	50	50
2,400 lin.ft. 8-in. or 10-in.	75	1 00	78	60	70	50
2,800 lin.ft. 12-in.	1 00	1 75	94	1 00	1 00	1 00
3,200 lin.ft. 15-in. or 18-in.	1 75	2 75	1 74	1 50	2 00	3 00
100 lin.ft. 20-in.	2 50	4 00	2 00	2 00	2 50	4 00
100 lin.ft. 24-in.	4 00	5 00	2 75	2 50	3 00	5 00
Extra Heavy Cast Iron Soil Pipe:						
400 lin.ft. 3-in.	55	3 00	1 00	50	1 00	50
500 lin.ft. 4-in.	90	3 50	1 25	80	1 50	60
1,000 lin.ft. 5-in.	1 00	3 75	1 75	1 00	1 80	80
2,000 lin.ft. 6-in.	1 25	4 00	2 25	1 25	2 00	1 20
Cast Iron Pipe Furnished:						
400 net tons bell and spigot straight	65 00	80 00	68 40	70 00	60 00	56 00
100 net tons bell and spigot special castings	125 00	125 00	125 00	120 00	120 00	100 00
25 net tons high-pressure straight	120 00	120 00	85 00	95 00	80 00	100 00
10 net tons high-pressure special castings	200 00	200 00	150 00	175 00	160 00	180 00
Laying and Taking Out Cast Iron Pipe:						
750 net tons laying bell and spigot pipe, special castings and fittings	17 50	40 00	18 00	50 00	30 00	18 00
50 net tons laying high-pressure pipe, special castings and fittings	30 00	60 00	20 00	50 00	35 00	20 00
600 net tons taking out bell and spigot pipe, spec. cast. and fittings	8 00	30 00	21 00	15 00	24 00	7 00
50 net tons taking out high-pressure pipe, special cast. and fittings	12 00	50 00	21 00	15 00	35 00	7 00
Bell End Water Gate Valves:						
1 36-in. geared gate valve	700 00	1,200 00	1,117 00	1,100 00	1,000 00	920 00
3 30-in. geared gate valves	400 00	850 00	771 00	800 00	800 00	600 00
1 24-in. gate valve	250 00	550 00	422 00	400 00	600 00	300 00
2 20-in. gate valves	150 00	300 00	264 00	260 00	375 00	240 00
2 16-in. gate valves	100 00	200 00	184 00	180 00	300 00	130 00
7 12-in. gate valves	60 00	110 00	100 00	100 00	225 00	70 00
3 10-in. gate valves	50 00	90 00	84 00	72 00	150 00	50 00
4 8-in. gate valves	45 00	50 00	54 00	50 00	100 00	50 00
6 6-in. gate valves	40 00	35 00	43 00	30 00	75 00	35 00
5,000 lb. wrought iron or steel pipe, any size	08	10	11	15	10	08
Wrought Iron or Steel Pipe Conduit:						
6,000 lin.ft. ¾-in. or 1-in. enameled conduit	25	25	14	30	25	30
1,500 lin.ft. 1¼-in. or 1½-in. enameled conduit	35	40	30	36	40	40
500 lin.ft. 2½-in. galvanized conduit	70	70	55	60	60	60
7,500 lin.ft. 3-in. galvanized conduit	90	80	71	90	70	80
1,000 lin.ft. 3½-in. galvanized conduit	1 25	1 00	88	1 10	1 00	1 00
400 net tons hauling pipe and fittings to and from city storeyard	4 00	10 00	6 50	3 00	2 50	2 00
50,000 lb. miscellaneous iron castings	05	10	07	08	08	08
100,000 duct.ft. terra cotta ducts	10	15	125	15	16	14
20,000 duct ft. relocating city ducts and conduits	40	1 00	50	50	1 00	20
Structural Steel:						
2,180,000 lb. steel columns	085	07	067	07	06	067
980,000 lb steel I beams, used as columns	085	07	067	07	06	067
4,450,000 lb. steel I beams and channels in roofs and floors	085	07	067	07	06	067
30,000 lb. riveted plate or lattice girders	085	07	067	07	06	067
50,000 lb. riveted struts and miscellaneous steel work	085	07	067	07	06	067
130,000 lb. tie rods, bolts, nuts, washers, dowels and anchor bolts	085	07	067	07	06	067
100 net tons interlocking steel sheet piling	120 00	125 00	90 00	120 00	80 00	120 00
Steel Pipe Piles:						
100 vert.ft. 12-in.	6 00	7 00	3 00	8 00	6 00	4 00
1,000 vert.ft. 15-in.	10 00	7 50	4 00	10 00	7 50	6 00
660,000 lb. steel reinforcing rods and bars	06	05	048	06	07	06
80,000 lb. steel wire lath, forms and anchors	25	15	19	20	25	20
7,000 sq.ft. steel ventilation gratings	2 00	2 00	2 00	2 50	1 50	80
430,000 sq.ft. painting steel work	07	07	04	10	07	05

Continued	A	B	C	D	E	F
2,000 sq.ft. safety treads	2 00	1 60	2 00	1 50	1 50	2 50
4,500 sq.ft. vault lights	1 75	1 65	1 50	1 75	1 50	1 50
Cartway Paving:						
32,200 sq.yd. asphalt	3 50	4 00	2 15	4 00	4 00	3 50
100 sq.yd. new wood block	4 50	5 50	7 00	4 50	4 00	4 00
100 sq.yd. new granite block	4 50	5 00	7 00	4 00	4 00	4 00
100 sq.yd. new vitrified block	4 00	5 00	7 00	4 50	4 00	4 00
Sidewalk Paving:						
2,000 sq.yd. granolithic	2 00	2 00	1 50	2 00	3 00	1 80
100 sq.yd. brick	2 00	2 50	1 50	2 00	3 00	1 00
2,500 sq.yd. flagstone	1 75	2 00	2 00	2 50	25	1 00
Curbing:						
200 lin.ft. 6-in. straight granite	2 25	2 00	2 00	2 00	1 60	1 50
500 lin.ft. 8-in. straight granite	2 75	2 50	2 60	2 50	2 40	2 30
100 lin.ft. 6-in. curved granite	3 00	3 50	2 80	3 50	3 00	2 40
200 lin.ft. 8-in. curved granite	3 50	4 00	3 10	4 00	4 00	2 70
500 lin.ft. steel edge concrete	1 20	1 50	1 25	1 00	75	1 25
4,000 lin.ft. resetting curb	40	1 00	35	30	30	25
$50,000 force account—expenditure	25%	20%	35%	30%	30%	25%
Extended totals	$3,273,550	$3,171,505	$3,461,628	$2,885,941	$3,186,062 50	$2,919,270

SUBWAY, PHILADELPHIA, PA.

Contract No. 103

W. S. Twining, Dir. Dept. City Transit, 754 Bourse Bldg., received bids, Apr. 3, section Delivery Loop Subway in Broad St. from (A) Keystone State Constr. Co., 704-9 Pennsylvania Bldg.; (B) Philadelphia Subway Constr. Co., 712 Lincoln Bldg.; (C) Smith, Hauser & Mac Isaac, Inc., 18 East 41st St., New York; (D) Underpinning & Foundation Co., 290 Broadway, New York. The item bids were as follows:

	A	B	C	D
258,000 cu.yd. excavation above elevation zero	$3 75	$4 55	$5 50	$4 05
22,400 cu.yd. excavation below elevation zero	4 00	5 25	5 50	7 00
100,000 ft.b.m. yellow pine lumber	50 00	110 00	75 00	50 00
Underpinning:				
1,500 ft. front, buildings 5 stories or less in height	80 00	40 00	50 00	60 00
500 ft. front, buildings over 5 and less than 10 stories in height	240 00	40 00	125 00	100 00
65 ft. front, buildings 10 stories or over in height	300 00	80 00	200 00	140 00
500 cu.yd. additional masonry for underpinning	10 00	8 00	1 00	12 00
Broad Street station, lump sum	20,000 00	7,000 00	25,000 00	15,500 00
Philadelphia and Reading Railunderecrossing, lump sum	30,000 00	150,000 00	140,000 00	80,000 00
Concrete Masonry:				
100 cu.yd. Class A-1:1½:3	12 50	40 00	16 00	12 00
33,800 cu.yd. Class B-1:2:4	12 00	12 00	12 25	10 60
2,500 cu.yd. Class C-1:3:6	11 00	11 50	11 00	9 80
500 cu.yd. Class D-1:4:8	10 00	11 00	10 00	9 00
4,000 sq.ft. reincreced concrete sheathing	2 00	1 00	1 00	60
500 cu.yd. brick masonry	18 00	30 00	20 00	15 00
200 cu.yd. hollow terra cotta brick masonry	18 00	25 00	20 00	15 00
100 cu.yd. rubble masonry	9 00	15 00	11 00	3 00
200 sq.yd. vitrified shale brick sewer lining	3 00	3 00	3 00	2 50
100 sq.yd. granite block sewer lining	3 00	3 00	3 00	3 00
Building New Manholes and Wellholes:				
12 manholes	130 00	150 00	150 00	60 00
100 vert.ft. wellholes	9 00	12 00	11 25	6 00
Building New Inlets:				
5 No. 1 inlets	150 00	200 00	150 00	100 00
5 No. 2 inlets	140 00	200 00	150 00	100 00
5 No. 3 inlets	125 00	200 00	150 00	100 00
5 No. 4 inlets	115 00	200 00	150 00	50 00
Taking Out and Rebuilding Inlets:				
5 inlets having standard pattern casting	125 00	150 00	125 00	40 00
5 inlets having old pattern casting to be replaced by standard	150 00	200 00	125 00	40 00
Flagstones:				
100 sq.ft. 2-in. thickness	30	50	40	40
100 sq.ft. 4-in. thickness	50	80	80	60
100 sq.ft. 6-in. thickness	75	1 50	1 00	80
100 cu.yd. dry rubble masonry or riprap	6 00	15 00	10 00	2 00
200 cu.yd. broken stone or gravel for drains	2 50	2 50	3 75	2 00
2,000 bags cement grout	1 10	1 00	1 00	1 25
3,500 sq.yd. granolithic finish	1 75	1 50	2 25	1 00
Fabric Waterproofing:				
7,500 sq.yd. 1-ply in asphaltic compound	70	1 50	1 20	70
500 sq.yd. 2-ply in asphaltic compound	1 00	2 50	2 20	1 10
500 sq.yd. 3-ply in asphaltic compound	1 40	3 50	2 55	1 50
500 sq.yd. 4-ply in asphaltic compound	1 80	4 50	3 35	1 90
7,500 sq.yd. 1-ply in coal tar pitch	65	1 00	1 00	70
500 sq.yd. 2-ply in coal tar pitch	95	1 50	1 70	1 10
500 sq.yd. 3-ply in coal tar pitch	1 30	2 00	2 40	1 50
500 sq.yd. 4-ply in coal tar pitch	1 60	2 75	3 10	1 90
2,000 sq.yd. 1-ply dry roofing felt	60	60	40	40
21,000 sq.yd. asphaltic mastic waterproofing	2 00	2 25	2 00	1 70
Brick in Waterproofing compound:				
1,200 cu.yd. in asphaltic compound	28 00	35 00	36 00	29 00
1,200 cu.yd. in coal tar pitch	26 00	35 00	30 00	29 00
Vitrified Clay Pipe:				
2,000 lin.ft. 4-in	40	50	40	30
2,000 lin.ft. 5-in. or 6-in	50	60	50	50
4,000 lin.ft. 8-in. or 10-in	60	1 00	70	50
500 lin.ft. 12-in	1 00	1 75	1 00	1 00
1,000 lin.ft. 15-in. or 18-in	1 50	2 75	2 00	3 00
100 lin.ft. 20-in	2 00	4 00	2 50	4 00
100 lin.ft. 24-in	2 50	5 00	3 00	5 00

	A	B	C	D
Extra Heavy Cast Iron Soil Pipe:				
300 lin.ft. 3-in	50	3 00	1 00	50
400 lin.ft. 4-in	80	3 50	1 50	60
1,000 lin.ft. 5-in	1 00	3 75	1 80	80
1,500 lin.ft. 6-in	1 25	4 00	2 00	1 20
Cast Iron Pipe Furnished:				
175 net tons bell and spigot straight	70 00	80 00	60 00	56 00
50 net tons bell and spigot special castings	120 00	125 00	120 00	100 00
25 net tons high-pressure straight	95 00	120 00	80 00	100 00
10 net tons high-pressure special castings	175 00	200 00	160 00	180 00
5 net tons high-pressure cast steel special castings furnished	220 00	350 00	300 00	300 00
Laying and Taking Out Cast Iron or Steel Pipe:				
225 net tons laying bell and spigot pipe, special cast. and fittings	50 00	40 00	30 00	18 00
30 net tons laying high-pressure pipe, special cast. and fittings	50 00	60 00	35 00	20 00
150 net tons taking out bell and spigot pipe, spec. cast. and fittings	15 00	30 00	24 00	7 00
30 net tons taking out high-pressure pipe, special cast. and fittings	15 00	50 00	35 00	7 00
25 net tons taking out and disposing of 48-in. steel pipe	20 00	20 00	35 00	7 00
Bell End Water Gate Valves:				
1 36-in. geared gate valve	1,100 00	1,200 00	1,000 00	920 00
4 30-in. geared gate valves	800 00	850 00	800 00	600 00
1 24-in. gate valve	400 00	550 00	600 00	300 00
4 20-in. gate valves	260 00	300 00	375 00	240 00
2 16-in. gate valves	180 00	200 00	300 00	130 00
5 12-in. gate valves	100 00	110 00	225 00	70 00
5 10-in. gate valves	72 00	90 00	150 00	50 00
4 8-in. gate valve	50 00	50 00	100 00	50 00
10 6-in. gate valves	30 00	35 00	75 00	35 00
5,000 lb. wrought iron or steel pipe, any size	15	10	10	08
Wrought Iron or Steel Pipe Conduit:				
2,500 lin.ft. ¾-in. or 1-in. enameled conduit	31	25	25	30
1,000 lin.ft. 1¼-in. or 1½-in. enameled conduit	36	40	40	40
500 lin.ft. 2½-in. galvanized conduit	60	70	60	60
5,000 lin.ft. 3-in. galvanized conduit	90	80	70	80
1,000 lin.ft. 3½-in. galvanized conduit	1 10	1 00	1 00	1 00
200 net tons hauling pipe and fittings to or from city storeyard	3 00	10 00	2 50	2 00
50,000 lb. miscellaneous iron castings	08	10	08	08
75,000 duct ft. terra cotta ducts	15	15	16	14
20,000 duct ft. relocating city ducts and conduits	50	1 00	1 00	20
Structural Steel:				
2,350,000 lb. steel columns	07	071	06	07
1,300,000 lb. steel I-beams used as columns	07	071	06	07
3,350,000 lb. steel I-beams and channels in roofs and floors	07	071	06	07
1,128,000 lb. riveted plate or lattice girders	07	071	06	07
50,000 lb. riveted struts and miscellaneous steel work	07	071	06	07
110,000 lb. tie rods, bolts, nuts, washers, dowels and anchor bolts	07	071	06	07
100 net tons interlocking steel sheet piling	120 00	125 00	80 00	120 00
Steel Pipe Piles:				
100 vert.ft. 12-in	8 00	7 00	6 00	4 00
1,000 vert. ft. 15-in	10 00	7 50	7 50	6 00
700,000 lb. steel reinforcing rods and bars	06	05	07	06
10,000 lb. steel wire lath, forms and anchors	20	15	25	20
2,000 sq.ft. steel ventilation gratings	2 50	2 00	1 50	80
100,000 sq.ft. painting steel work	10	07	07	05
3,500 sq.ft. safety treads	1 50	1 60	1 50	2 50
1,500 sq.ft. vault lights	1 75	1 65	1 50	1 50
Cartway Paving:				
20,00 sq.yd. aspha.t	4 00	4 00	4 00	3 50
100 sq.yd. new wood block	4 50	5 50	4 00	4 00
100 sq.yd. new granite block	4 00	5 00	4 00	4 00
100 sq.yd. new vitrified block	4 50	5 00	4 00	4 00
2,500 sq.yd. granolithic	2 00	2 00	3 00	1 80
100 sq.yd. brick	2 00	2 50	3 00	1 00
750 sq.yd. flagstone	2 50	2 00	25	1 00

Continued	A	B	C	D
Sidewalk Paving—Curbing:				
200 lin.ft. 6-in. straight granite	2 00	2 00	1 60	1 50
500 lin.ft. 8-in. straight granite	2 50	2 50	2 40	2 30
100 lin.ft. 6-in. curved granite	3 50	3 50	3 00	2 40
200 lin.ft. 8-in. curved granite	4 00	4 00	4 00	2 70
500 lin.ft. steel edge concrete	1 00	1 50	.75	1 25
3,000 lin.ft. resetting curb	30	1 00	.30	.25
$50,000 force account—expenditure	30%	20%	30%	25%
Extended totals	$2,846,240	$3,090,103	$3,292,767 50	$2,815,240

SUBWAY, PHILADELPHIA, PA.

Contract No. 204

W. S. Twining, Dir. Dept. City Transit, 751 Bourse Bldg., received bids, Apr. 3, section Delivery Loop Subway in Broad St. from, (A) Keystone State Constr. Co., 704-9 Pennsylvania Bldg.; (B) Smith, Hauser & Mac Isaac, Inc., 18 East 41st St., New York; (C) Philadelphia Subway Constr. Co., Lincoln Bldg.; (D) Underpinning & Foundation Co., 290 Broadway, New York. The item bids were as follows:

	A	B	C	D
300,500 cu.yd. excavation above elevation zero	$5 50	$4 25	$3 80	$4 55
5,250 cu.yd. excavation below elevation zero	5 50	5 00	7 00	5 05
100,000 ft.b.m. yellow pine lumber	60 00	50 00	50 00	110 00
Underpinning:				
1,400 ft. front, buildings 5 stories or less in height	50 00	50 00	60 00	42 00
200 ft. front, buildings over 5 stories and less than 10 stories in height	100 00	75 00	100 00	60 00
50 ft. front, buildings 10 stories or over in height	125 00	150 00	140 00	90 00
500 cu.yd. additional masonry for underpinning	1 00	10 00	12 00	8 00
West End Trust building, lump sum	36,000 00	24,000 00	14,000 00	19,000 00
Girard Trust building, lump sum	30,000 00	26,000 00	60,000 00	18,000 00
Lincoln building, lump sum	51,000 00	40,000 00	54,000 00	20,000 00
Liberty building, lump sum	40,000 00	33,500 00	25,000 00	19,000 00
Real Estate Trust and Hallowell buildings, lump sum	51,000 00	60,500 00	65,000 00	31,000 00
North American building, lump sum	16,000 00	5,000 00	5,800 00	1,000 00
Land Title and Trust building, lump sum	86,000 00	91,000 00	118,000 00	39,000 00
Manufacturers' Club building, lump sum	33,000 00	10,000 00	16,000 00	2,000 00
Bellevue-Stratford Hotel building, lump sum	17,000 00	5,000 00	22,000 00	4,000 00
Ritz-Carlton Hotel building, lump sum	1,000 00	5,000 00	4,500 00	1,000 00
Art Club of Philadelphia building, lump sum	4,000 00	15,000 00	15,000 00	8,000 00
Walton Hotel building, lump sum	17,000 00	9,000 00	6,000 00	8,000 00
Stenton Hotel building, lump sum	5,000 00	10,000 00	3,000 00	8,500 00
Concrete Masonry:				
100 cu.yd. Class A-1:½:3	16 00	12 50	12 00	40 00
38,400 cu.yd. Class B-1:2:4	12 25	12 00	10 60	12 00
3,000 cu.yd. Class C-1:3:6	11 00	11 00	9 80	11 50
500 cu.yd. Class D-1:4:8	10 00	10 00	9 00	11 00
4,000 sq.ft. reinforced concrete sheathing	1 00	2 00	60	1 00
500 cu.yd. brick masonry	20 00	18 00	15 000	30 00
500 cu.yd. hollow terra cotta brick masonry	20 00	18 00	15 00	25 00
200 cu.yd. rubble masonry	11 00	9 00	3 00	15 00
100 sq.yd. vitrified shale brick sewer lining	3 00	3 00	2 50	3 00
100 sq.yd. granite block sewer lining	3 00	3 00	3 00	3 00
Building New Manholes and Wellholes:				
30 manoles	150 00	130 00	60 00	150 00
100 vert ft. wellholes	11 25	9 00	6 00	12 00
Building New Inlets:				
5 No. 1 inlets	150 00	150 00	100 00	200 00
5 No. 2 inlets	150 00	140 00	100 00	200 00
5 No. 3 inlets	150 00	125 00	100 00	200 00
5 No. 4 inlets	150 00	115 00	50 00	200 00
Taking Out and Rebuilding Inlets:				
25 inlets having standard pattern casting	125 00	125 00	40 00	150 00
5 inlets having old pattern casting to be replaced by standard	125 00	150 00	40 00	200 00
Flagstones:				
100 sq.ft. 2-in. thickness	40	30	40	50
100 sq.ft. 4-in. thickness	80	50	60	80
100 sq.ft. 6-in. thickness	1 00	75	80	1 50
100 cu.yd. dry rubble masonry or riprap	10 00	6 00	2 00	15 00
200 cu.yd. broken stone or gravel for drains	3 75	2 50	2 00	2 50
3,000 bags cement grout	1 00	1 10	1 25	1 00
9,200 sq.yd. granolithic finish	2 25	1 75	1 00	1 50
Fabric Waterproofing:				
7,100 sq.yd. 1-ply in asphaltic compound	1 20	.70	.70	1 50
500 sq.yd. 2-ply in asphaltic compound	2 20	1 00	1 10	2 50
500 sq.yd. 3-ply in asphaltic compound	2 55	1 40	1 50	3 50
500 sq.yd. 4-ply in asphaltic compound	3 35	1 80	1 90	4 50
7,000 sq.yd. 1-ply in coal tar pitch	1 00	.65	.70	1 00
500 sq.yd. 2-ply in coal tar pitch	1 70	95	1 10	1 50
500 sq.yd. 3-ply in coal tar pitch	2 40	1 30	1 50	2 00
500 sq.yd. 4-ply in coal tar pitch	3 10	1 60	1 90	2 75
2,000 sq.yd. 1-ply dry roofing felt	.40	60	.40	.60
24,000 sq.yd. asphaltic mastic waterproofing	2 00	2 00	1 70	2 25
Brick in Waterproofing Compound:	A	B	C	D
1,000 cu.yd. in asphaltic compound	36 00	28 00	29 00	35
1,000 cu.yd. in coal tar pitch	30 00	26 00	29 00	35
Vitrified Clay Pipe:				
3,700 lin.ft. 4-in	40	40	30	
2,000 lin.ft. 5-in. or 6-in	50	50	50	
1,500 lin.ft. 8-in. or 10-in	70	60	50	1
1,000 lin.ft. 12-in	1 00	1 00	1 00	1
4,000 lin.ft. 15-in. or 18-in	2 00	1 50	3 00	2
100 lin.ft. 20-in	*2 50	2 00	4 00	4
100 lin.ft. 24-in	3 00	2 50	5 00	5
Extra Heavy Cast Iron Soil Pipe:				
300 lin.ft. 3-in	1 00	50	50	3
500 lin.ft. 4-in	1 50	80	60	3
1,000 lin.ft. 5-in	1 80	1 00	80	3
2,000 lin.ft. 6-in	2 00	1 25	1 20	4
Cast Iron Pipe Furnished:				
250 net tons bell and spigot straight	60 00	70 00	56 00	80
75 net tons bell and spigot special castings	120 00	120 00	100 00	125
25 net tons, high-pressure straight	80 00	95 00	100 00	120
10 net tons high-pressure special castings	160 00	175 00	180 00	200
5 net tons high-pressure cast steel special castings furnished	300 00	220 00	300 00	350
Laying and Taking Out Cast Iron or Steel Pipe:				
300 net tons laying bell and spigot pipe, spec. cast and fittings	30 00	50 00	18 00	40
50 net tons laying high-pressure pipe, spec. cast. and fittings	35 00	50 00	20 00	60
25 net tons taking out bell and spigot pipe, spec. cast. and fittings	24 00	15 00	7 00	30
50 net tons, taking out high-pressure pipe, spec. cast. and fittings	35 00	15 00	7 00	50
100 net tons, taking out and disposing of 48-in. steel pipe	35 00	20 00	7 00	20
Bell End Water Gate Valves:				
2 36-in. geared gate valve	1,000 00	900 00	920 00	1,200
3 30-in. geared gate valves	800 00	600 00	600 00	850
1 24-in. gate valve	600 00	400 00	300 00	550
2 20-in. gate valves	375 00	260 00	240 00	300
2 16-in. gate valves	300 00	180 00	130 00	200
4 12-in. gate valves	225 00	100 00	70 00	110
4 10-in. gate valves	150 00	72 00	50 00	90
4 8-in. gate valves	100 00	50 00	50 00	50
6 6-in. gate valves	75 00	30 00	35 00	35
5,000 lb. wrought iron or steel pipe, any size	.10	.15	.08	
Wrought Iron or Steel Pipe Conduit:				
5,000 lin.ft. ¾-in. or 1-in. enameled conduit	.25	.30	.30	
2,000 lin.ft. 1¼-in. or 1½-in. enameled conduit	.40	.36	.40	
500 lin.ft. 2½-in. galvanized conduit	.60	60	.60	
5,000 lin.ft. 3-in. galvanized conduit	.70	.90	.80	
1,000 lin.ft. 3½-in. galvanized conduit	1 00	1 10	1 00	1
100 net tons hauling pipe and fittings to or from city storeyard	2 50	3 00	2 00	10
50,000 lb. miscellaneous iron castings	.08	.08	.08	
60,000 duct ft. terra cotta ducts	.16	.15	.14	
20,000 duct ft. relocating city ducts and conduits	1 00	.50	.20	1
Structural Steel:				
2,500,000 lb. steel columns	.06	.07	.07	
1,300,000 lb. steel I-beams used as columns	.06	.07	.07	
5,300,000 lb. steel I-beams and channels in roofs and floors	.06	.07	.07	
1,350,000 lb. riveted plate or lattice girders	.06	.07	.07	
50,000 lb. riveted struts and miscellaneous steel work	.06	.07	.07	
115,000 lb. tie rods, bolts, nuts, washers, dowels and anchor bolts	.06	.07	.07	
100 net tons interlocking steel sheet piling	80 00	120 00	120 00	125
Steel Pipe Piles:				
100 vert.ft. 12-in	6 00	8 00	4 00	7
1,000 vert. ft. 15-in	7 50	10 00	6 00	7
910,000 lb. steel reinforcing rods and bars	.07	06	.05	
10,000 lb. steel wire lath, forms and anchors	25	.20	.20	
2,000 sq.ft. steel ventilation gratings	1 50	2 50	80	2
130,000 sq.ft. painting steel work	07	10	05	
7,200 sq.ft. safety treads	1 50	1 50	2 50	1
3,000 sq.ft. vault lights	1 50	1 75	1 50	1
Cartway Paving:				
22,000 sq.yd. asphalt	4 00	4 00	3 50	4
100 sq.yd. new wood block	4 00	4 50	4 00	5
100 sq.yd. new granite block	4 00	4 00	4 00	5
100 sq.yd. new vitrified block	4 00	4 50	4 00	5
Sidewalk Paving:				
2,000 sq.yd. granolithic	3 00	2 00	1 80	2
100 sq.yd. brick	3 00	2 00	1 00	2
1,200 sq.yd. flagstone	25	2 50	1 00	2
Curbing:				
200 lin.ft. 6-in. straight granite	1 60	2 00	1 50	2
500 lin.ft. 8-in. straight granite	2 40	2 50	2 30	2
100 lin.ft. 6-in. curved granite	3 00	3 50	2 40	3
200 lin.ft. 8-in. curved granite	4 00	4 00	2 70	4
500 lin.ft. steel edge concrete	75	1 00	1 25	1
4,400 lin.ft. resetting curb	30	30	25	1
$50,000 force account	30%	30%	25%	20
Extended totals	$3,861,435	$3,495,018	$3,336,400	$3,491,912 50

SEWERS, NEW YORK, N. Y.

Bids were received by M. M. Marks, boro. pres., Municipal Bldg., for sewers and appurtenances in 1st Ave. between 95th and 106th St., and outlet sewers in 96th and 102nd St., between Harlem River and 1st Ave., from (A) James Pilkington, 3377 Sedgewick Ave., Bronx; (B) James O'Leary, 411 East 42nd St.; (C) Melrose Constr. Co., 147 East 125th St. The item bids were as follows:

	A	B	C
312 lin.ft. 5-ft. 3-in. x 8-ft. 6-in. concrete sewer	$50 00	$55 00	$45 00
884 lin.ft. 5-ft. 3-in. brick sewer	40 00	42 00	39 00
288 lin.ft. 4-ft. 9-in. brick sewer	30 00	36 00	29 00
262 lin.ft. 4-ft. 6-in. brick sewer	30 00	34 00	25 00
68 lin.ft. 3-ft. 6-in. concrete sewer	20 00	26 00	27 00
441 lin.ft. 3-ft. 6-in. concrete sewer	20 00	24 00	27 00
60 lin.ft. 4-ft. x 2-ft. 8-in. brick sewer	20 00	22 00	22 00
237 lin.ft. 4-ft. x 2-ft. 8-in. brick sewer	20 00	21 00	28 00
580 lin.ft. 3-ft. 6-in. x 2-ft. 4-in. brick sewer	20 00	26 00	18 00
228 lin.ft. 3-ft. 6-in. x 2-ft. 4-in. brick sewer	20 00	21 00	24 00
491 lin.ft. 3-ft. 6-in. x 2-ft. 4-in. brick sewer	20 00	21 00	24 00
278 lin.ft. 20-in. vitrified pipe sewer	12 00	10 00	14 00
262 lin.ft. 18-in. vitrified pipe sewer	10 00	9 00	11 50
262 lin.ft. 15-in. vitrified pipe sewer	8 00	8 00	9 50
653 lin.ft. 12-in. vitrified pipe sewer	6 00	8 00	8 50
438 lin.ft. 3-ft. 6-in. vitrified brick sewer	22 00	25 00	19 00
505 lin.ft. 12-in. vitrified pipe basin	5 00	3 75	2 80
500 lin.ft. 12-in. vitrified pipe basin drain	3 00	1 50	2 00
150 lin.ft. 6-in. vitrified pipe basin drain	30	1 50	1 40
1,600 lin.ft. abandon sewer fill		50	3 80
Overflow chamber No. 1	3,000 00	1,200 00	2,300 00
Overflow chamber No. 2	2,000 00	3,000 00	2,300 00
65 manholes	60 00	100 00	50 00
457 spurs	25	5 00	1 40
9 receiving basins F. or G	200 00	200 00	235 00
Inlet basin C	200 00	100 00	100 00
11 receiving basins, altered	100 00	60 00	100 00
25 cu.yd. earth excavation	2 00	2 00	3 00
50 cu.yd. rock excavation	4 00	5 00	5 00
34 cu.yd. rock excavation	4 00	5 00	5 00
300 cu.yd. additional concrete	6 00	01	8 00
5 cu.yd. additional concrete	6 00	01	7 00
5 cu.yd. additional concrete	6 00	01	6 00
25 cu.yd. additional concrete	6 00	01	6 00
10 cu.yd. rubble masonry	3 00	01	6 00
5 cu.yd. dry rubble masonry	3 00	01	4 00
100 cu.yd. stone ballast	2 00	2 50	2 00
10 cu.yd. additional brick masonry	15 00	13 00	14 00
130,000 ft.b.m. timber foundation	40 00	30 00	50 00
300,000 ft.b.m. timber bracing	25 00	20 00	35 00
4,500 lb. steel reinforcing	05	06	08
29,000 lin.ft. piles	30	25	35
3,853 sq.yd. pavement	1 00	1 00	2 00
8,865 sq.ft.b.s. flag sidewalk	05	08	08
2,718 sq.ft. concrete sidewalk	10	17	25
600 lin.ft. curb restored	05	50	25
Extended totals	$177,364	$188,611	$196,873

SEWER, ERIE, PA.

Bids were received by city Apr. 6 for storm sewer and appurtenances from (A) F. G. Diefendorf, Erie; (B) J. McCormick & Bro., Erie; (C) W. Bancroft, Erie; (D) Pitt Construction Co., Inc., Fulton Bldg., Pittsburgh, $112,590. The item bids of the 3 lowest bidders were as follows:

	A	B	C	D
140 ft. 4-ft. x 5-ft. concrete culvert	$17 80	$16 00	$20 00	$27 00
120 ft. 40-ft. concrete sewer	6 50	12 00	15 00	14 00
5,840 ft. 36-in. tile sewer	6 40	7 25	7 25	12 00
3,220 ft. 30-in. tile sewer	4 33	3 50	3 00	7 50
700 ft. 24-in. tile sewer	2 65	3 25	2 75	4 70
140 ft. 12-in. tile sewer	1 00	1 25	1 00	1 25
1,100 ft. 9-in. tile sewer	75	1 00	75	1 20
300 ft. 6-in. tile sewer	1 00	1 00	20	90
Concrete outlet (lump sum)	915 00	700 00	1,000 00	1,650 00
Manholes, etc	3,325 00	2,180 00	4,110 00	6,195 00
Extended totals	$61,950	$64,520	$64,660	$112,590

Louis L. Brown Co., Inc., have just opened offices at 30 Church St., New York City, and will specialize in foundation by open and pneumatic methods, shoring and underpinning, concrete, masonry and timber construction, etc. The firm is comprised of Louis L. Brown, formerly vice-president of the Foundation Co., and James H. Small, Jr., formerly chief engineer of Patrick Ryan Constr. Corp.

Thomas G. Bush & Co., sales agents and special contractors, Paulsen Building, Spokane, have arranged with the Hodson-Feenaughty Co. to handle the road machinery and contractor's equipment manufactured by the Austin-Western Road Machinery Co. and its associate companies.

The Blaw Steel Construction Company has opened Pacific Coast offices at San Francisco in the Rialto Building with Edward M. Ornitz in charge.

The Braemer Air Conditioning Corporation of Philadelphia announces the opening of a New York Office at 90 West St. with G. P. Uppington as District Manager. Mr. Uppington is a Graduate Engineer with 11 years' practical experience in heating, ventilating, air-conditioning and sales work, and well qualified for his new position.

The Elgin Sales Co., 605 South Dearborn St., Chicago, and 140 West 38th St., New York, has taken over the selling agency of the Elgin Street Sweeper Co., maker of motor-driven outfits. George C. Dodge is in charge at New York and A. M. Anderson at Chicago.

S. B. Newman and M. F. Cavallon, who have been associated with the Master Builders Co., announce that they have entered into business to sell building products under the name of the Newman-Cavallon Co., Inc., 8 West 40th St., New York, N. Y.

W. T. O'Brien, manager of the Railway Equipment Co., Portland, Oregon, announces his plant will be moved to a site recently secured in Linnton.

J. L. Stannard, Cons. Engr., announces the removal of his office from the Corbett Bldg. to 504-5-6 Selling Bldg., 6th and Alder St., Portland, Ore.

PREPAREDNESS

The effect of the preparations for war is beginning to appear in the purchases of the Navy Department, though with the exception of a few materials and articles the purchases have not yet passed beyond the ordinary routine requirements. Awards have been made for nearly 200 of the submarine chasers or patrol boats for which bids were opened on Mar. 31. The average price is about $45,000 and the awards have been split up among a large number of bidders, no bidder receiving more than 20. An additional number will be built at the New York Navy Yard. Heavy duty gasoline engines are being ordered for these boats, the type selected being that known as the "Standard." The engines will be installed by the Government.

A large order for steel nets for use against submarines was placed with the American Steel and Wire Co. at $625 each for 100. The type of net is smaller than that recently ordered from the same company. An order for 1,500,000 lb. of trinitrotoluol was divided before the Burton-Richards Co. and the E. I. du Pont de Nemours Powder Co., the price being about 36c. a pound. A very large emergency order for alcohol for immediate delivery to Indian Head Naval Proving Ground was placed with James A. Webb & Co., New York, at 50.7c. per gallon, which is much below the previous prevailing price on alcohol for naval use.

Bids were also opened for a large quantity of brass, copper and bronze, in angles, ingot and pipe. Most of this material is desired for construction of vessels.

The Bureau of Yards and Docks is purchasing without advertising in what is known as open market purchase a large quantity of transportation material, such as cars, trucks, locomotives and cranes, deliveries being desired at the various yards.

The Bureau of Ordnance has opened bids for a large number of shell ranging from the armor-piercing 16-in. shell down to 1-pounders. No awards have been made. They have also opened bids for 1,470,000 copper cartridge cases for 4-in., 3-in. and 1-pounder guns. Awards have not been made but will aggregate several million dollars. Bids are now asked for copper stowage boxes and wooden ammunition cases for shell and powder which will call for the execution of large contracts.

Bids have been opened for the construction of 48 submarine torpedo boats, but as usual competition is confined to the Electric Boat Co. and the Lake Torpedo Boat Co., with a bid from the California Shipbuilding Corporation on the Lake design. The prices quoted range from $1,300,000 to $1,500,000.

In the Army, owing to the failure of Congress to act upon the Appropriation Bill, comparatively little emergency purchasing is being done, but plans are being made for stimulating purchasing as soon as the money is available.

Much interest is being taken in the plans of the Shipping Board to construct a large number of wooden vessels of about 2000 tons each but little progress is being made towards anything definite in the accomplishment of this scheme.

TRADE PUBLICATIONS

Industrial Plants. The Foundation Co., 233 Broadway, New York. Booklet; pp. 16; 5½ x 8½ in.; illustrated.

Steam (Vacuum) Pumps, Foot Valves, Quick-Cleaning Strainers. The Emerson Pump and Valve Co., Alexandria, Va. Catalog; pp. 56; 6 x 9 in.; illustrated.

Spraco Products. The Spray Engineering Co., 93 Federal St., Boston, Mass. Bulletin No. 501; pp. 16; 8 x 11 in.; illustrated. This is a condensed bulletin of the different products of this company, including spray-cooling, air-washing and paint-spraying equipment, park sprinklers, flow meters, nozzles.

Cranes. Whiting Foundry Equipment Co., Harvey, Ill. Catalog No. 127; pp. 48; 6 x 9 in.; illustrated.

Pressed Steel Platforms for Hand and Power Elevating Trucks. The McMyler-Interstate Co., Cleveland, Ohio. Bulletin No. 37; 8 x 11 in.; illustrated.

Deep Well Pumps, Tube Well Supplies. A. D. Cook, Lawrenceburg, Ind. Catalog No. 14; pp. 68; 7 x 10 in.; illustrated.

Concrete Mixers. T. L. Smith Co., Milwaukee, Wis. Catalog 402; pp. 48; 6 x 9 in.; illustrated. Catalog includes tables of capacities based on wet-batch rating of the National Association of Mixer Manufacturers.

Iroquois Asphalt Repair Wagon. The Barber Asphalt Paving Co., Buffalo, N. Y. Bulletin No. 5; pp. 4; 8 x 10½ in.; illustrated.

Concrete Mixers. The Jaeger Machine Co., Columbus, Ohio. Catalog; pp. 32; 8½ x 11 in.; illustrated.

Duplex Steam Pumps. Dean Bros. Steam Pump Works, Indianapolis, Ind. Circular No. 104; pp. 8; 8½ x 11 in. This gives details of design and construction of pump.

Iroquois Mastic Mixing Machine. The Barber Asphalt Paving Co., Buffalo, N. Y. Bulletin No. 4; pp. 8; 8 x 10½ in.; illustrated.

Trench Excavators. The Parsen Co., Newton, Iowa. Folder containing bulletins of different models; 9 x 12 in.; illustrated.

Air Lift Pumping System. Sullivan Machinery Co., 122 South Michigan Ave., Chicago, Ill. Bulletin No. 71-C; pp. 36; 6 x 9 in.; illustrated.

Straight Line Air Compressors. Sullivan Machinery Co., 122 South Michigan Ave., Chicago, Ill. Bulletin No. 75-B; pp. 16; 6 x 9 in.; illustrated.

Tables Giving the Quantities of Material Required in Concrete Construction. The Sandusky Cement Co., Cleveland, Ohio. Booklet; pp. 12; 3½ x 6 in. This booklet ought to be of value to those interested in concrete construction.

The Watters Grab Bucket. Whiting Foundry Equipment Co., Harvey, Ill. Catalog No. 126; pp. 12; 6 x 9 in.; illustrated.

Parker Rust-Proofing Process. Parker Rust-Proof Co. of America, Detroit, Mich. Catalog. Pp. 48; 8 x 10½ in.; illustrated. Describes the process for depositing a protecting layer of iron phosphate.

Ingersoll-Rogler Straight-Line Dry Vacuum Pumps. Ingersoll-Rand Co., 11 Broadway, New York. Form No. 3037. Pp. 24; 6 x 9 in.; illustrated.

Imperial Duplex Dry Vacuum Pumps. Ingersoll-Rand Co., 11 Broadway, New York. Form No. 3038. Pp. 24; 6 x 9 in.; illustrated.

Standardized Power. Novo Engine Co., Lansing, Mich. Pamphlet; pp. 24; 6 x 9 in.; illustrated. This describes the Novo gas engines, air compressors, hoists, pumping and sawing outfits.

A Record Order for Wire Mesh Reinforcing is announced by Albert Oliver & Son, Inc., sales agents for the Clinton Wire Cloth Co.'s structural products. The Fireproof Contractors' Corporation has ordered 1,060,000 sq.ft. of Clinton electrically welded fabric for the floors and roof of the new Commodore Hotel, New York City. The date of first delivery is June 1, and it is expected that the entire order will be completed in five months from that date.

SEARCHLIGHT SECTION

PROPOSALS

Bids received until May 3, 1917.

Dam Raising

OFFICE OF THE BOARD OF STREET AND WATER COMMISSIONERS OF THE CITY OF NEWARK.
City Hall,
Newark, N. J., April 14, 1917.

Sealed proposals will be received from 3:15 to 3:30 o'clock P.M. on Thursday, May 3, 1917, at a public meeting of the Board of Street and Water Commissioners to be held at its office in the City Hall, Newark, New Jersey, at said time, for the

RAISING OF THE DAM OF THE OAK RIDGE RESERVOIR,

for the Water Department of the City of Newark, situated near Oak Ridge, Passaic County, New Jersey, and the bids for said work will be opened and publicly read at the last-named hour.

The following is a statement based upon the estimate of the Engineer of the amount of work to be done and the materials to be furnished in the construction and completion of said work, and upon which the several bids will be computed, tested and canvassed by the quantities mentioned:

6450 cu.yds. of earth excavation 0 to 4 feet deep;

150 cu.yds. of earth excavation 4 to 20 feet deep;

1035 cu.yds. of rock excavation to the depths shown on the plans;

43,500 cu.yds. of borrowed earth;

50 cu.yds. of clay puddle;

4000 cu.yds. of slope paving to be removed;

900 cu.yds. of concrete deposited without the use of forms;

3235 cu.yds. of concrete deposited in forms;

3260 lbs. of sheet lead;

200 lineal feet of six (6) inch agricultural tile;

Removing and replacing deck of gatehouse (a lump sum);

Furnishing and erecting a stairway (a lump sum).

These quantities are approximate only, being given as a basis for a uniform comparison of bids, and the board does not expressly or by implication agree that the actual amount of work will correspond therewith.

Each proposal must be inclosed in a sealed envelope indorsed "Proposal for the Raising of the Oak Ridge Dam," with the name of the bidder and directed to the Board of Street and Water Commissioners of the City of Newark, New Jersey.

The prices of bidders must be written in words and also stated in figures in the form of bid, and all bids will be considered as informal which do not contain prices set oposite all the items which are called for in the form of bid.

Proposal must be accompanied by the consent in writing of two sureties, residents of Essex County, New Jersey, or a surety company authorized to do business in New Jersey, who shall qualify as to their responsibility in the amount of the proposal, and agree to become sureties for the faithful performance of the contract, if awarded.

The plans and specifications for the proposed work can be examined at the office of the Engineer and Superintendent of the Bureau of Water of the Board of Street and Water Comissioners at No. 317 Halsey Street. Copies of the plans and specifications may be obtained upon the deposit of a certified check for $10. This check will be returned to the bidder upon the return of the plans and specifications on or before the day fixed for the receipt of bids.

Blank form of proposals which must be used in submitting bids will be furnished upon application to said office.

The contract is to be awarded to the lowest bidder, the board reserving the right to reject any or all bids.

INFORMATION FOR BIDDERS.

The work is located at the lower end of the Oak Ridge Reservoir in the Township of Jefferson, Morris County, and the Township of West Milford, Passaic County, New Jersey. The nearest railroad station is Oak Ridge on the New York, Susquehanna & Western Railroad.

The work to be done consists of building a small dam, a concrete overflow dam, concrete retaining walls and making such alterations in the present dam and gatehouse that the flow line of the reservoir may be raised ten feet. Bidders are advised to visit the site of the work and satisfy themselves as to the character of the ground and the work to be done. An employee of the Board of Street and Water Commissioners will be on the site of the work for twelve (12) days after the date of this advertisement, with the exception of Sundays, between the hours of 8 A.M. and 4 P.M., to show the bidders the location of the various parts of the work.

The sanitary regulations and the provisions relating thereto as set forth in paragraphs J, K, L and M of the contract and specifications, are particularly brought to the attention of bidders.

By direction of the board.

MORRIS R. SHERRERD,
Chief Engineer.

Official Proposals

Price, $3.60 an inch—Copy can be received until Wednesday, 10 a. m. for issue mailed the next day

Bids received until Apr. 20, 1917.

Concrete Pavement

Sarnia, Ont., Canada.

Sealed Tenders addressed to the City Engineer, Sarnia, Ontario, will be received up to 5 o'clock P.M., the 20th day of April, 1917, for the construction of a 30-ft. Concrete Pavement on the London Road from Christina to Russell Streets, in the City of Sarnia.

Plans, Profile, Specifications and Forms of Tenders may be seen at the office of the City Engineer, City Hall, Sarnia.

The lowest or any Tender not necessarily accepted.

JOHN A. BAIRD, City Engineer.
Sarnia, 12th April, 1917.

PROPOSALS

Bids received until Apr. 26, 1917.

Earth Dam, Etc.

Fitchburg, Mass.

Sealed bids or proposals for building an earth dam, 225 ft. long, with a maximum height of 30 ft. with a reinforced concrete curtain wall, spill way, gate house, iron pipe outlet and appurtenances; also the reconstruction of a portion of the town road, and building a concrete culvert thereon; addressed to the Board of Water Commissioners, Fitchburg, Mass., and endorsed, "Proposals for Compensating Reservoir," will be received at the office of the Board, City Hall, Fitchburg, until 2 p.m. on Thursday, the 26th day of April, 1917.

At this time and place said proposals will be opened and read in public.

Each bid must be accompanied by a certified check drawn on a National bank or Trust Company, established in the state of Massachusetts, or city of New York, for $1000, payable to the City of Fitchburg. The successful bidder will be required to furnish a bond in the sum of $10,000 with a Surety Company, satisfactory to the Commissioners. Detailed drawings, form of contract, and specifications may be obtained at the office of the Water Commissioners, or at the office of the Commissioner of Streets and Engineering, Fitchburg. A deposit of $5 will be required on plans and specifications taken from either office. Such deposit will be refunded upon the return of the plans and specifications.

The Water Commissioners reserve the right to reject any or all bids or to accept any bid which they deem to be to the interest of the City of Fitchburg.

Signed: THOMAS C. SHELDON,
ARTHUR A. TRAIN,
Water Commissioners.
GUY H. CHASE,
Comr. of Streets and Engineering.

Bids received until May 5, 1917.

Sewer Construction

Phoenixville, Pa.

The Borough of Phoenixville, South District, through its Sewer Committee, will receive bids until Saturday Evening, May 5th, 1917, at 8 o'clock, for the construction of a 24-in. sewer on Gay Street, Phoenixville, Pa., from Church Street to French Creek, a distance of approximately Nine Hundred and Eight Feet (908). Plans and specifications may be seen at the office of C. H. Keeley, Borough Clerk, North Main Street, Phoenixville, Pa. The Committee reserves the right to reject any or all bids.

CHAS. F. BADER,
E. A. BARKLEY,
JONATHAN DAVIS,
Sewer Committee.

Bids received until May 8, 1917.

Brick Paving

Vincennes, Ind.

Knox County will receive bids May 8 for 43,000 sq.yds. Brick Paving, 6 miles Rolled Stone Roads and 5½ miles Gravel Roads.

WINN H. REEL,
County Engineer, Vincennes, Ind.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

Proposals

For Proposals Advertised See Pages 59 to 66 Inclusive

WATER-WORKS

Bids Close.		See Eng. News-Record.
Apr. 30.	Virginia, Minn.	Apr. 26
Apr. 30.	Evanston, Ill.	Apr. 19
May 1.	Mendham, N. J.	Apr. 5
May 1.	Adel, Ia.	Apr. 26
May 2.	Milwaukee, Wis. Adv. Apr. 12.	Apr. 19
May 3.	Lowellville, O.	Apr 26
May 3.	Newark, N. J.	Apr. 26
May 5.	Martins Ferry, O.	Apr. 26
May 7.	Bloomfield, N. J. Adv. Apr. 26.	Apr. 26
May 7.	Plainfield, N. J. Adv. Apr. 26.	Apr. 26
May 7.	Reedsburg, Wis.	Apr. 26
May 9.	Cortland, N. Y. Adv. Apr. 26.	Apr. 26
May 10.	Tennille, Ga. Adv. Apr. 19 and 26.	Apr. 26

SEWERS

Apr. 27.	Valpariso, Ind.	Apr. 26
Apr. 28.	Martins Ferry, O.	Apr. 26
May 1.	Lancaster, O.	Apr. 26
May 1.	Oswego, N. Y.	Apr. 26
May 1.	Adel, Ia.	Apr 26
May 1.	Kalama, Wash.	Apr. 26
May 1.	Rockford, Ill.	Apr. 26
May 1.	Toledo, O.	Apr. 26
May 3.	Clear Lake, S. D.	Apr. 26
May 3.	Ventura, Cal.	Apr. 26
May 3.	Clear Lake, S. D.	Apr. 26
May 4.	Centerburg, O. Adv. Apr. 12 and 19.	Apr. 19
May 7.	White Plains, N. Y.	Apr. 19
May 7.	Huron, S. D.	Apr. 26
May 7.	West Lake, O.	Apr. 26
May 7.	Clifton, Ariz.	Apr. 26
May 7.	Everett, Wash.	Apr. 26
May 10.	Tennille, Ga.	Apr. 26
May 14.	Lewisville, O.	Apr. 26
May 25.	Lakewood, O. Adv. Apr. 19.	Apr. 19

STRUCTURAL STEEL WORK

May 1.	Wichita, Tex.	Apr. 26
May 1.	Aitkin, Minn.	Apr. 26
May 2	Red Bluff, Cal.	Apr. 26
May 7.	Rio Vista, Cal.	Apr. 26
May 7.	Norristown, Pa. Adv. Apr. 26.	Apr. 26
May 7.	Indiana	Apr. 26
May 8.	Yazoo City, Miss.	Apr. 26
May 7.	New York, N. Y.	Apr. 19
May 10.	Huntington, W. Va.	Apr. 19
May 10.	Wahpeton, N. D.	Apr. 19
May 10.	Port Angeles, Wash.	Apr. 26
May 15.	Eureka, Cal.	Apr. 26

REINFORCED CONCRETE

May 1.	Downington, Pa.	Apr. 12
May 3.	Kingwood, W. Va.	Apr. 19
May 5.	Bethany, W. Va.	Apr. 19
May 7.	Merced, Cal.	Apr. 19
May 7.	Logan, W. Va.	Apr. 19
May 7	Muscatine, Ia.	Apr. 26
May 7.	Sharon Springs, Kan.	Apr 26
May 7.	Meridian, Mass.	Apr. 26
May 7.	Bradentown, Fla.	Apr. 26
May 8.	Visalia, Cal.	Apr. 19
May 12.	Richmond, Ind. Adv. Apr. 19 and 26.	Apr. 26
May 15.	Hazard, Ky.	Apr. 12

STREETS AND ROADS

Apr. 30.	Grove Hill, Ala.	Apr. 5
Apr. 30.	Montesano, Wash.	Apr. 19
Apr. 30.	Greenville, Tenn.	Apr. 19
Apr. 30.	Knoxville, Tenn.	Apr. 19
Apr. 30.	Islip, N. Y.	Apr. 26
Apr. 30.	Everett, Wash.	Apr. 26
May 1.	Baltimore, Md. Adv. Apr. 19.	Apr. 19
May 1.	Albany, N. Y. Adv. Apr. 12 to 26.	Apr. 19
May 1.	Lewisburg, Va. Adv. Apr. 19 and 26.	Apr. 19
May 1.	Uniontown, Pa.	Apr. 26
May 1.	Trenton, N. J	Apr 26
May 1.	Lake Charles, La. Adv. Apr. 26.	Apr. 26
May 1.	Bristol, Conn. Adv. Apr. 26.	Apr. 26
May 1.	Red Lake Falls, Minn.	Apr. 26
May 1.	Bessemer, Mich.	Apr. 26
May 1.	Toledo, O.	Apr. 26
May 1.	Convent, La.	Apr. 26
May 1.	Darien, Conn. Adv. Apr. 26.	Apr. 26
May 1.	Dunkirk, N. Y. Adv. Apr. 26.	Apr. 26
May 1.	Yuma, Ariz. Adv. Apr. 26.	Apr. 26
May 2.	Lancaster, O.	Apr. 19
May 3.	Barnesville, Ga. Adv. Apr. 12 and 19.	Apr. 19
May 2.	Providence, R. I. Adv. Apr. 26.	Apr. 26
May 2.	Brooklyn, N. Y.	Apr. 26
May 3.	Oakland, Md.	Apr. 26
May 3.	Santa Barbara, Cal.	Apr. 26
May 3.	Dayton, O.	Apr. 26
May 3.	Columbus, Miss.	Apr. 26
May 4.	Beckley, W. Va. Adv. Apr. 19.	Apr. 19
May 5.	Coquille, Ore.	Apr. 26
May 7.	Fayetteville, W. Va. Adv. Apr. 12.	Apr. 19
May 7.	Mountain City, Tenn.	Apr. 19
May 7.	Indiana, Ind.	Apr. 19
May 7.	Bakersfield, Cal.	Apr 26
May 7.	Morgantown, W. Va.	Apr. 26
May 7.	Spearfish, S. D.	Apr. 26
May 7.	Brookhaven, Miss.	Apr. 26
May 7.	Holbrook, Ore.	Apr. 26
May 7.	Indiana	Apr. 26
May 7.	Northampton Heights, Pa. Adv. Apr. 19 and 26.	Apr. 26
May 8.	Vincennes, Ind. Adv. Apr. 19 and 26.	Apr. 19
May 8.	Wenatchie, Wash.	Apr. 19
May 8.	Bloomfield, Ind.	Apr. 19
May 8.	Roxboro, N. C.	Apr. 19
May 8.	Pickens, S. C.	Apr. 19
May 8.	Port Orchard, Wash.	Apr. 26
May 8.	Shelton, Wash.	Apr. 26
May 8.	Bound Brook, N. J.	Apr. 26
May 8.	Indiana	Apr. 26
May 9.	Indiana	Apr. 26
May 9.	Albion, Mich. Adv. Apr. 26.	Apr. 26
May 10.	Texarkana, Ark. Adv. Apr. 26.	Apr. 26
May 10.	Indiana	Apr. 26
May 10.	Augusta, Ga. Adv. Apr. 19 and 26.	Apr. 26
May 12.	Indiana	Apr. 26
May 14.	Ilean, N. Y. Adv. Apr. 26.	Apr. 26
May 14.	Indiana	Apr. 26
May 14.	Oil City, Pa. Adv. Apr. 19 and 26.	Apr. 19
May 14.	Eutaw, Ala. Adv. Apr. 26.	Apr. 26
May 14.	Bangor, Me.	Apr. 26
May 14.	Watervliet N. Y. Adv. Apr. 26.	Apr. 26
May 22.	Newark, O.	Apr. 26
May 30.	Lenoir, N. C. Adv. Apr. 26.	Apr. 26

RAILWAYS

May 2.	Mandan, N. D. Adv. Apr. 12 and 19.	Apr. 19

EXCAVATION AND DREDGING

Apr. 39.	Ivanhoe, Minn.	Apr. 26
Apr. 30.	Danville, Ill.	Apr. 26
May 1.	Quincy, Ill. Adv. Apr. 5.	Apr. 5
May 15.	Trenton, N. J. Adv. Apr. 19 and 26.	Apr. 19
May 16.	Vale, Ore.	Apr. 26
May 31.	Schuyler, Neb.	Apr. 26

BUILDINGS

Apr. 28.	Stratford, Conn.	Apr. 19
Apr. 30.	Toledo, O.	Apr. 19
Apr. 30.	Louisville, Ky.	Apr. 19
May 1.	Hamilton, Ont.	Apr 26
May 1.	Syracuse, N. Y.	Apr. 26
May 1.	Miami, Fla.	Apr. 26
May 1.	Rochester, N. Y. Adv. Apr. 19 and 26.	Apr. 26
May 2.	Jamestown, N. Y.	Apr. 26
May 3.	Ducktown, Tenn.	Apr. 26
May 10.	Kingman, Kan.	Apr. 26
May 11.	Galion, O.	Apr. 26
May 14	Asbury Park, N. J.	Apr. 26
May 15.	Fulton, Mo.	Apr. 12
July 15.	Kansas City, Mo.	Apr. 19
May 26.	Columbus, O. C.	Apr. 26
May 30.	Urbana, Ill. Adv. Apr. 26.	Apr. 26

FEDERAL GOVERNMENT

Apr. 28.	New York, N. Y. Adv. Apr. 19 and 26.	Apr. 26
Apr. 30.	Wheeling, W. Va. Adv. Apr. 5 to 26.	Apr. 5
Apr. 30.	Dallas, Tex. Adv. Apr. 5 to 26.	Apr. 5
Apr. 30.	Washington, D. C. Adv. Apr. 19 and 26.	Apr. 19
Apr. 30.	St. Louis, Mo.	Apr. 19
May 1.	Sault Ste. Marie, Mich. Adv. Apr. 5 to 26.	Apr. 5
May 1.	Powell, Wyo. Adv. Apr. 5.	Apr. 5
May 1.	Washington, D. C. Adv. Apr. 19.	Apr. 26
May 2.	Narragansett Pier, R. I. Adv. Apr. 12 and 19.	Apr. 12
May 3.	Port Huron, Mich. Adv. Apr. 5 to 26.	Apr. 5
May 3.	New York, N. Y. Adv. Apr. 12 to 26.	Apr. 12
May 3.	Washington, D. C.	Apr. 26
May 4.	Chattanooga, Tenn. Adv. Apr. 5.	Apr. 5
May 4.	New York, N. Y. Adv. Apr. 5 to 26.	Apr. 5
May 4.	Philadelphia, Pa.	
May 4.	Philadelphia, Pa.	Apr. 26
May 4.	Baltimore, Md. Adv. Apr. 19 and 26.	Apr. 26
May 7.	Beaver Dam, Wis.	Apr. 5
May 7.	Pearl Harbor, Hawaii	Apr. 5
May 7.	Ft. Caswell, N. C. Adv. Apr. 12 to 26.	Apr. 19
May 7.	Ft. Mifflin, Pa.	Apr. 19
May 7.	New Orleans, La.	Apr. 19
May 7.	Cape Henry, Va. Adv. Apr. 19 and 26.	Apr. 26
May 7.	Pensacola, Fla.	Apr. 26
May 7.	Indian Head, Md.	Apr. 26
May 7.	Duluth, Minn. Adv. Apr. 26.	Apr. 26
May 8.	New York, N. Y. Adv. Apr. 26.	Apr. 26
May 8.	Media, Pa.	Apr. 12
May 9.	Kansas City, Mo. Adv. Apr. 19 and 26.	Apr. 19
May 9.	San Pedro, Cal.	Apr. 26
May 9.	Portsmouth, N. H. Adv. Apr. 26.	Apr. 26
May 10.	Detroit, Mich. Adv. Apr. 19 and 26.	Apr. 19
May 10.	Nogales, Ariz.	Apr. 26
May 11.	Boise, Idaho	Apr. 5
May 11.	Cleveland, O. Adv. Apr. 12 to 26.	Apr. 19
May 12.	Ft. Benj. Harrison, Ind. Adv. Apr. 19 and 26.	Apr. 26
May 14.	Baltimore, Md. Adv. Apr. 12 to 26.	Apr. 26
May 14.	Key West, Fla. Adv. Apr. 26.	Apr. 26
May 14.	Vallejo, Cal.	Apr. 26
May 14.	New Orleans, La.	Apr. 26
May 15.	Bolinas, Cal. Adv. Apr. 5.	Apr. 5
May 16.	Fitzgerald, Ga. Adv. Apr. 12.	Apr. 19
May 16.	Athens, Tenn. Adv. Apr. 12.	Apr. 19
May 17.	Sault Ste. Marie, Mich. Adv. Apr. 19 and 26.	Apr. 26
May 17.	Cedar Falls, Ia.	Apr. 12
May 18.	Santa Fe, N. M.	Apr. 26
May 18.	El Paso, Tex.	Apr. 19
May 19.	Washington, D. C. Adv. Apr. 26.	Apr. 26
May 21.	Vallejo, Cal.	Apr. 26
May 21.	Cleveland, O. Adv. Apr. 26.	Apr. 26
May 21.	Wilmington, Del. Adv. Apr. 26.	Apr. 26
May 23.	Garfield, N. M. Adv. Apr. 26.	Apr. 26
May 23.	Montgomery, Ala. Adv. Apr. 26.	Apr. 26
May 24.	**Indiana, Pa.**	**Apr. 26**
May 25.	Washington, C. H. O.	Apr. 26
May 28.	Jasper, Ala. Adv. Apr. 19 and 26.	Apr. 26
May 29.	Southbridge, Mass. Adv. Apr. 19 and 26.	Apr. 26
May 29.	Berwick, Pa. Adv. Apr. 26.	Apr. 26
May 30.	Ft. Michie, N. Y. Adv. Apr. 26.	Apr. 26

MISCELLANEOUS

Apr. 30.	Garbage Furnace—Braddock, Pa. Adv. Apr. 12 and 19.	Apr. 19
May 1.	Foundations. Philadelphia, Pa.	Apr. 26
May 2.	Ties and Timber—New York City	Apr. 19
May 4.	Revetment Wall—Cincinnati, O.	Apr. 26
May 7.	Pine Bluff, Ark.	Apr. 5
May 8.	Incinerator. New Brunswick, N. J.	Apr. 26
May 9.	Ballast. New York, N. Y.	Apr. 26
May 17.	Turbine & Generator. Rockport, Ill.	Apr. 26
June 1.	Wharf—Richmond Va.	Apr. 19

WATER-WORKS

Proposed Work

R. I., Providence—Bd. Contract and Supply rejected all bids for 8,000,000 gal. capacity pump to be installed as auxiliary to pressed unit at Hope Pumping Station.

N. Y., Ft. Ann—Bd. Trus. rejected all bids for water-works. Cost, $25,000.

N. J., Pitman—Borough passed ordinance to purchase system of Pitman Water Co. for $48,000; extensive improvements planned.

Pa., Hubbard—City plans to issue $10,000 bonds for improving water-works.

Pa., Roaring Springs—City plans improving water-works.

Fla., Brooksville—City plans to construct water-works. Cost, $20,000. Knight & McElroy, Tampa, engrs.

Ala., Talladega—City sold $145,000 bonds for water-works.

Miss., Natchez—Bd. Aldermen approved proposition to issue $15,000 water-works and sewer bonds. F. Winchester, supt.

Tenn., Lenoir City—City to issue $25,000 bonds for water-works. J. W. Buffell, supt.

Tenn., Sparta—J. E. Thompson, Nashville, purchased Sparta water-works and plans improvements to include 6- and 8-in. mains, extending distributing system, increasing capacity of standpipe, etc.

O., Lancaster—City plans to extend water mains to number of sections of city. Cost, $20,000. J. King, supt.

O., Wauseon—Layne Bowler Co. plans to install wells to furnish city with better water supply. Cost, $15,000. J. S. Clark, supt.

Ill., Gross Point—City will soon let contract for laying $39,910 ft. 4- to 10-in. water pipe. Windes & Marsh, Winnetka, engrs.

Wis., Menominee—Falls—See "Structural Steel."

Wis., Potosi—City voted $10,000 bonds for water-works system.

Ia., Massena—City voted $17,000 bonds to lay 24 blocks water mains and install 50,000-gal. tank, 78-ft. high. C. M. McBride, clk.

Minn., Thief River Falls—S. J. Overland, city clk., will soon let contract for concrete reservoir, 2 pumping stations, pumps, motors, etc. Cost, $13,600.

Kan., Baldwin—City to issue $20,000 bonds for water-works and electric-light plant. H. Pattersom, supt.

Kan., Baxter—City will soon let contract for water plant. Cost, $80,000. A. C. Moore, Joplin, engr.

Kan., Chanute—City plans extending filter plant at water-works, adding 500,000 gal. units and purchasing elevated steel tank. Plans also being prepared for sewer work. C. Pratt, city engr.

Kan., Chanute—City rejected all bids for water-works system. Cost, $100,000. Black & Veatch, 507 Interstate Bldg., Kansas City, Mo., engr.

Kan., Plainville—Council passed ordinance to issue $10,000 bonds for water-works.

Neb., Unadilla—City plans to install water system. About $10,500. Grant & Fulton, Lincoln, engrs.

N. D., Berthold—City plans water-works, including 100,000-gal. tank. About $12,000. T. R. Arnold, Great Falls, engr.

Okla., Gates—City voted $15,000 bonds to build water-works.

Okla., Hugo—City voted $10,000 bonds for installing settling basin.

Okla., Tahlequah—City rejected all bids for water-works improvements. Cost, $30,000. E. B. Murray, 920 Walnut St., Kansas City, Mo. engr.

Okla., Wapanucka—City plans improvements to water-works and light plant.

Wash., Camas—City will soon hold election to vote on $100,000 bonds for water-works.

Ore., Huntington—See "Sewers."

Cal., Modesto—City will soon let contract to build the unit on water-works.

Cal., Oroville—Pacific Gas and Electric Co., 445 Sutter St., San Francisco, plans extensions and improvements to Thermalito water distributing system; about $50,000.

Cal., San Francisco—Sierre & San Francisco Power Co. prepared plans for reservoir along Stanislaus River. About $4,000,000.

Que., South Montreal—City plans installing water-works and sewerage system consisting of steel tank, 100,000 gal. capacity, centrifugal pumps, 800 gal. per min., 350,000 gal. filter plant, 17 streets of vitr. tile sewers, etc.

Que., Thetford Mines—Council passed law for constructing dam for reservoir; cost, $50,000. A. Gagnon, Notre Dame St., secy.-treas.

Ont., Chatham—Ontario Ry. & Municipal Bd. approved by-law authorizing $16,600 bonds for water-works extension. J. W. Adams, city engr.

Ont., Sudbury—City will vote Apr. 30 on $46,000 bonds for stand pipe and auxiliary main, also $2,500 for alterations to lake sewer pumping station. W. J. Ross, town clk.

Bids Desired

N. Y., Cortland—Until May 9 by Bd. Water Comrs., for pumping station, etc., advertised in this issue.

N. J., Bloomfield—Until May 7 by Town for water pipe: 20 net tons 8-in. c.-i. pipe, 17 net tons 6-in. c.-i. pipe and 2 net tons specials for 8-in. and 6-in. pipe. E. Bacchiln, engr.

N. J., Newark—(Official)—Until May 3 by Bd. Street and Water Comrs. for raising dam of Oak Ridge Reservoir; advertised in this issue.

Ga., Tennville—See "Sewers."

N. C., Elm City—See "Sewers."

O., Lowellville—Until May 3 by J. H. Lash, village clk., for furnishing material and constructing water connections from main water line in Youngstown and Lowellville Rd., Wood and other streets.

O., Martins Ferry—Until May 5 by city for furnishing material and constructing well system, suction pipe line, pumps, etc., for water-works. Burgess & Long, Columbus, engrs. T. McPherson, city clk.

Ia., Adel—Until May 1 by City for 4650-ft. 4-in. c.i. pipe, 5 hydrants and 5 gate valves. B. G. Finley, clk.

Neb., Harrison—Until May 9 by Town Clk. for pumping plant.

N. D., La Moure—Until May 7 for water-works system. B. W. Loppnow, city aud.

Tex., Temple—See "Reinforced Concrete."

Prices and Contracts Awarded

(★Indicates award of contract)

★**N. Y., New York**—C. Strauss, supt. Bd. Water Supply, Municipal Bldg., let contract erecting fences around Hill View Reservoir, Yonkers, and Silver Lake reservoir Richmond Boro. to Lupfer & Remich, 594 Ellicott Sq. Bldg., Buffalo, $57,310.

Pa., Ambridge—See "Reinforced Concrete."

★**Va., Norfolk**—Bd. Control let contract laying water mains and hydrants on Bank St. to Lawson Constr. Co., Essex Bldg.

★**O., Greenwich**—City contract improvements to water-works to Alger & Krauss, 416 Guardian Bldg., Cleveland, $17,789. Noted Apr. 19.

★**O., New London**—Bd. Pub. Affairs let contract 4½ mi. 8 in. wood pipe to Michigan Pipe Co., Bay City, at 70c. f.o.b. New London; laying same to Natl. Co., South Bend, 29c. per ft.; laying 4½ mi. distributing system 4-, 6- and 8-in. c.i. pipe to H. Martin, 155 Richardson Ave., Columbus, at 38, 45 and 55c. per ft., also for storage well, foundation for tower and tank.

★**O., Wauseon**—Village Council let contract, addition to water supply system to Lan & Bowler Co., Chelsea Ave., Memphis, Tenn.

★**Wis., Madison**—City let contract 1-story, 110 x 134 ft. pumping plant to Morgan & Morgan, 108 Breeze Terrace, $65,000.

★**Neb., Scottsbluff**—City let contract waterworks extension to J. S. Schwartz, Colorado Springs, Colo., $26,250. Noted Apr. 12.

★**N. D., Cooperstown**—City let contract for water and sewerage system, to Schruth & Jackson, Winnipeg, Mon., $74,881.

★**Mont., Wolf Point**—City let contract waterworks system to Two Miracle Co., Great Falls.

Tex., Electra—See "Sewers."

★**Okla., Kaw City**—City let contract waterworks and electric-light plant to Cudgel & McVay, Stillwater, about $25,000.

★**Ore., Astoria**—(Official)—Astoria Water Comn. let contract distributing system and lining tunnel to E. Sandeberg, 74 East 24 St., N., Portland, $55,996.

★**Que., Cap De La Madeline**—Municipal Council let contract aqueduct, pumping station and reservoir to A. Aubin, St. Jerome. About $10,000.

★**Que., St. Hyacinthe**—(Official)—City let contract filter plant to Roberts Filter Mfg. Co., Darby, Pa., $121,000.

★**Ont., Sandwich**—Town let contract installing water mains to Merlo, Merlo & Ray, 296 Winderm Rd., Walkerville, $29,457.

SEWERS

Proposed Work

N. H., Derry—Town plans to install sewerage system. Cost $25,000. Dudley & Sawyer, 936 Elm St., Manchester, engrs.

N. J., Newark—Council passed ordinance authorizing $1,200,000 bond issue for Passaic Valley sewer work. A. Archibald, city clk.

Pa., Ocontz—Cheltenham Twp. Comrs. will hold election May 1 to vote on $625,000 bonds for sewerage system and disposal plant.

Pa., Phila.—City plans to spend $130,000 for sewer work. C. Albright, city engr.

Pa., Wilkes-Barre—See "Streets and Roads."

Va., Abingdon—City plans installing sewerage system and sewage-disposal plant. G. F. Grant mayor.

W. Va., Martinsburg—City plans to extend and improve storm sewers and water-works. Cost $25,000 and $5000, respectively.

Miss., Natchez—See "Water-Works."

Ky., Paris—City voted $10,000 bonds for sewer system. J. W. Hayden, city clk.

O., Canton—City sold $77,000 bonds to install central southwest storm sewer and $17,000 bonds to pave and improve Liberty Ave., S. E. W. E. Sarver, city engr.

O., Leetonia—City rejected all bids for sewage disposal plant. Cost, $45,000.

O., Portsmouth—City plans to issue $10,000 bonds to extend and improve sewerage system. P. G. Harper, city engr.

Ind., Indianapolis—(Official)—City will let contract about May 10, for West 10th St. sewer, 2 ring brick or segment block, 2 ft. 6 in. to 6 ft. 6 in. diam., length 8190 ft.

Ind., Indianapolis—Indianapolis Bd. Sanitary Sewer Comrs. plans to install sewage-disposal plant. About $2,000,000. Jay A. Craven, asst supt.

Mich., Escanaba—City voted $30,000 bonds for sewer from foot of Ludington St., to sewage disposal plant.

Ill., Evanston—See "Excavation and Dredging."

Ill., Grosse Point—City will soon let contract about 37,911 ft. 8- to 16-in. sewers and 113 manholes.

Wis., Superior—City estimates cost constructing main sewer in alley northeast of Itasca St. at $11,500; complete system to East 6th St., at $23,411.

Ia., Grand Mounds—City plans to install sewage disposal plant and about 3 mi. of sewers. Iowa Engr. Co., Chase Bldg., Clinton, engrs.

Ia., West Burlington—City plans to install storm sewers. Stevens & Stiles, 708 Ridge Arcade, Kansas City, Mo., engrs.

Minn., Bemer—City to vote $14,500 bonds for sewerage system.

Kan., Chanute—See "Water-Works."

Mo., Carl Junction—City will let contract in June for sewer work to cost $15,000.

Ark., Harrison—City having plans prepared for sanitary sewer system. A. C. Moore, Joplin, engr.

Tex., Dallas—Bd. City Comrs. plans issuing $300,000 bonds for sewers.

Tex., McAllen—City plans issuing $46,000 bonds for sewer and street improvements.

Colo., Trinidad—City voted in favor of issuing $30,000 bonds for enlarging sewerage system.

Utah, Ogden—City election soon to vote on $300,000 bonds for sewers and $100,000 for paving. J. M. Tracy, city engr.

Ore., Huntington—City voted $20,000 bonds for trunk-line sewer and $5000 for extension to waterworks. Stanley & Bailey, Baker, engrs.

Ore., Seaside—City plans to spend $25,000 rebuilding sewerage and drainage system. L. C. Rogers, city engr.

Cal., Modesto—City voted following bond issues: $40,000 for streets, $30,000 sanitary sewers, $15,000 storm sewers and $5000 water-works extension.

N. S., Halifax—City plans to install sewers. Cost, $37,000. H. W. Johnston, engr.

Que., South Montreal—See "Water-Works."

B. C., Vancouver—City and Joint Sewer Bd. approved plans for proposed Beach Ave. sewer. Cost, $30,000.

Bids Desired

N. Y., Fairport—Until May 4 by Village Bd. for about 8000 ft. storm drains, etc.; advertised in this issue.

N. Y., New York—Until Apr. 27, by M. M. Marks, boro. pres., for alterations to receiving basins in 1st and 2nd Ave., Macdougal, Catherine and numerous other streets, together with inlets, etc.

N. Y., Olean—See "Streets and Roads."

N. J., Plainfield—Until May 7 by Common Council for sanitary sewers and appurtenances; advertised in this issue.

N. C., Elm City—Until Apr. 30 by H. T. Scott, city clk., for sewer and water extensions.

Ga., Tennille—(Official)—Until May 10 by City Clk., installing sewers and water mains, advertised in this issue.

O., Centerburg—Until May 4 by C. Smith, village clk., for sewage disposal plant, also sewers, advertised in this issue.

Sewers (Continued)

O., **Huron**—Until May 7, F. H. McQuillen, village clk., for sewer in South St. J. C. Britton, supt.

O., **Kent**—See "Streets and Roads."

O., **Lancaster**—Until May 1, by G. B. Larimer, dir. pub. ser., for sewers and branches in storm water sewer Dist. No. 12. Separate bids for sewer in first alley south of Walnut St. Also for improving with hard burned vitr. brick portions of West Wheeling St.

O., **Lewisville**—Until May 14 by E. Keylor, village clk., for installing sewers.

O., **Martins Ferry**—Until Apr. 28 by city for storm water sewers in Jefferson St. G. L. Spence, dir. pub. serv.

O., **Toledo**—Until May 1 by co. comrs. for Sewer No. 16, 14 miles 6- to 24-in. vitr. sewer pipe, 2 miles water pipe, manholes, etc. L. A. Boulay, Toledo., co. engr.

O., **West Park**—Until May 7 by F. Feuchter, village clk., for storm water and sanitary sewers in Lorain, Williams and Barthelam Aves. Lander Eng. Co., 306 American Trust Bldg., Cleveland, engr.

Ia., **Adel**—Until May 1 by City for installing sewer. B. G. Finley, clk.

Neb., **Valentine**—Until Apr. 30 by City installing sewerage system. About $26,000.

S. D., **Clear Lake**—Until May 3 by City for sewerage system and sewage treatment plant, including 22,370 ft. 8- to 18-in. pipe, manholes, flush tanks, etc. Dakota Eng. Co., Mitchell, engrs.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Mass., Boston**—D.pt. Pub. Wks. let contract pipe sewers and drains in Woodward St., S. Boston, to T. J. O'Connell, 1528 Dorchester Ave., Dorchester, Linden Park and Roxbury St., Roxbury, to M. H. Loonie, 73 Gibson St., Dorchester, Waldo Ter., Brighton, to A. Cefal, 316 Belgrade Ave., Roxbury.

★Edw. F. Murphy, comr. dept. pub. wks., let contract pipe sewers and drains in West Roxbury to F. Drinkwater, 309 Washington St., in Roxbury to V. Grande, 57 Hull St.

★**Conn., New Haven**—City let contract installing sewers in various streets to Palmer & Lynch, West Haven.

★**N. Y., Binghamton**—Bd. Contract & Supply let contract 5570 ft. 8- to 24-in. pipe sewers to G. Serafini, 10 Lafayette St., $11,859.

★**N. Y., Niagara Falls**—City let contract 2150 lin.ft. 52-in., 960 ft. 48-in. and 950 ft. 42-in. concrete sewers, together with manholes, catch basins, etc., to Gibbons & Donnelly, Cleveland.

N. Y., Syracuse—City received low bids for main sewer line and dredging and improvements to Onandage Creek near South Ave., from J. Young, 297 Barnstable Blk., Syracuse, $449,960, and J. F. Leary Constr. Co., Cutler Bldg., Rochester, $590,000.

★**Pa., Johnstown**—(Official)—City let contract Sect. 2 Main Sewer to M. O. O'Herron Co., 1st and McKean St., Pittsburgh, $130,620.

★**Pa., McKeesport**—City let contract sanitary sewerage system to Bowman Bros. Co., 539 Jerome St., McKeesport, $73,736.

★**Pa., Washington**—City let contract main sanitary sewer to give outlet to sewerage system on Shannon Ave. to W. Puckett & Co.

★**O., Cincinnati**—(Official)—City let contract Mill Creek intercepting Sewer, Contract No. 2, between Harrison and Marshall Ave. to Welling & Franz, 9th and Plum St., $154,759; Contract No. 4 between Mitchell and Spring Grove Ave., to D. P. Foley, Park Ave., $168,637.

★**O., Cleveland**—City let contract installing sewers in Sandusky Ave. to Brookside Constr. Co., 3905 West 20th St., $30,880; Farrington Ave. to Gawne Constr. Co., 105th St. and Euclid Ave., $28,103.

★**O., Cuyahoga Falls**—Village let contract installing sewers to Hoag & Dall, 41 Natl. Commercial Bank, Cleveland, $120,928.

★**Ind., Gary**—Bd. of Wks. let contract sewer to M. D. Heiny, Gary, $249,223.

★**Mich., Grosse Point**—City let contracts sewage disposal plant, pumping system and complete sanitary sewer to Candler Dock & Dredge Co., 505 Moffat Bldg., Detroit, $94,667; B. Douglas Co., 303 Wilmot St., Ann Arbor, $18,990; G. R. Cooke, Detroit, $133,944.

★**Wis., Oconomowoc**—City let contract sewer in Pleasant St. to F. E. Kaminski, Watertown.

Wis., Sheboygan—Bd. Pub. Wks. received low bid for sewer work from E. Aldag, Jr., Co., $12,952. C. U. Boley, city engr.

★**Minn., Chippewa Falls**—City let contract sewers in several streets to Cast Stone Constr. Co., Eau Claire, $19,678.

★**Minn., St. Paul**—M. N. Goss, comr. pub. wks., let contract as follows: Pascal Ave., to E. T. Webster, 715 Germania Life Bldg., Ashury and Boswell Aves. to C. Johnson, Scandinavian-American Bank Bldg., St. Paul.

★**Neb., Omaha**—(Official)—City let contracts sewers to A. F. Hanson, Dist. 564, 25th St. from P. St. to Railroad Ave., $2471, Dist. No. 587, Monroe St. from 13th to 15th St., $921, Dist. 588, Ames Ave. from 45th St. to west city limits, $2726, Dist. No. 590, Iler addition and Thomason and Goos addition, $11,091; to H. J. Petersen, Dist. No. 589, Dwight and Lyman addition, $6393.

★**S. D., Wessington Springs**—City let contract sewerage system and reduction plant to Dunnegan & Briggs, Shenandoah, Ia., $32,638.

★**N. D., Cooperstown**—See "Water-Works."

★**Tex., Electra**—City let contract sewerage system and extension to water-works to M. Griffin O'Neal & Sons, 2516 McKenzie Ave., Dallas.

★**Tex., Waxahachie**—City let contract, sewage disposal plant to Griffin O'Neal & Sons, 2516 McKenzie Ave., Dallas.

★**Idaho, Nezperce**—City let contract sewerage system to Security Bridge Co., Lewiston, $28,499.

Utah., Murray—City let contract, 2nd part of sewer system to Park Bros., Salt Lake City, $27,000.

★**N. S., Halifax**—City let contract sewers to Cook Constr. Co., Ltd., 335 Queenspool St. About $70,000.

STRUCTURAL STEEL WORK

Proposed Work

Conn., Waterbury—City plans to build bridge across Naugatuck River on Main St.; cost, $100,000. R. A. Cairns, city engr.

Pa., Phila.—(Official)—W. S. Twining, Dir. Dept. City Transit, 754 Bourse Bldg., rejected bids opened Apr. 17, additional steel superstructure and appurtenant work to provide station platforms on Frankford Elevated Ry. at Huntingdon St. Will readvertise at once. Noted Apr. 12.

Ind., Columbus—County voted $14,000 bonds for additional span to bridge over White River; $12,000 for same work over Flatrock River and $3000 for county's share of flood-prevention work.

Wis., Menominee Falls—Village plans to install 50,000-gal. steel tank reservoir on 50-ft. steel tower.

Ia., Rock Rapids—(Official)—County rejected bids 88 concrete box culverts and 4—16-ft. slab bridges. New bids. W. C. Wycoff, co. engr.

Kan., Independence—See "Streets and Roads."

Tex., Wichita Falls—County to hold election to vote $20,000 bonds to build bridge.

Okla., Holdenville—Dustin and Bernard Twps., Hughes Co., election May 12 to vote on $50,000 bonds to build bridges.

Ore., Portland—P. H. Dater, city engr., estimates cost of proposed viaduct across tracks of Oregon, Washington, Railroad and Navigation Co.'s main line on East 41st St. at $15,000.

Bids Desired

Pa., Norristown—(Official)—Until May 7 by W. D. Heebner, co. contr. rebuilding floor system, placing of wood blocks and painting bridge over Schuylkill River, advertised in this issue.

Miss., Yazoo City—Until May 8 by S. S. Griffin, clk. bd. supervs., for one 756-ft. creosoted pile trestle bridge; two 20-ft. concrete arch bridges; two 30-ft. and one 10-ft. concrete slab bridges; one 42- and one 50-ft. steel span bridges; also one 200-ft. concrete or steel bridge.

Indiana—By Co. Comrs. for constructing following bridges: May 7: Vernon, stone or concrete bridge in Sand Creek Twp.; G. J. Bernhart, co. aud. Spencer, 2 steel bridges in Lafayette Twp.; S. M. Royer, co. aud.

Ill., Rockford—Until May 1 by co. supt. of highways for cross bridge and Hartman culverts on county line between Lacona Twp., Winnebago Co. and Rock Grove Twp., Stephenson Co.

Minn., Aitkin—Until May 1 by H. C. Bleecker, co. aud., for bridge No. 2470.

Tex., Wichita—Until May 1 by co. comrs. for one 2-span bridge, 200 ft. long, also two 240-ft. spans, all through Pratt trusses. About $75,000. M. M. Cooke, 502 Kemp & Kell Bldg., Wichita Falls, archt.

Okla., Chandler—Until May 8 by County, building 5 bridges. J. O. Pringley, clk.

Ariz., Clifton—Until May 7 by Bd. Supervs. hinge steel arch bridge, 312 ft. long with 3 steel deck girder approach spans, steel bent piers and abutments.

Wash., Everett—Until May 7 by M. Weatherbee, co. aud., for bridge and pile-trestle near Startup.

Wash., Kalama—Until May 1 by B. O. Olson, co. clk., suspension bridge over Cowlitz River.

Wash., Port Angeles—Until May 10 by J. W. Warren, co. aud., building Upper Sol Due Bridge.

Wash., Seattle—Until Apr. 30, by N. M. Wardall, co. aud., for building Kenmore trestle and approaches, 1800 ft. long; cost $20,000. J. S. Hume, co. engr.

Cal., Eureka—Until May 15 by M. Kay, co. clk., for 2 bridges.

Cal., Red Bluff—Until May 2, by H. G. Kuhn, co. clk., repairing and rebuilding Red Bank bridge.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Mass., Quincy**—Fore River Shipbuilding Co. let contract 30x1000-ft. steel and concrete shipways, including electrical cranes, 12,000 cu.yd. concrete, 3000 wooden piles, and about 3000 tons structural steel to Aberthaw Constr. Co., 27 School St., Boston.

★**Md., Ocean City**—County let contract bridge over Synepuxent Bay to F. P. Beasman, 7 Clay St., Baltimore.

★**Ia., Burlington**—County let contract bridge to Clinton Bridge Works, 101 South 2nd St., Clinton.

★**Ia., Elkader**—County let contract bridge to Waterloo Constr. Co., 315 Syndicate Bldg., Waterloo, about $14,100.

★**Ia., Rock Rapids**—City let contract steel pony truss, iron and concrete bridge to Des Moines Bridge & Iron Co., Tuttle St., Des Moines, $14,000.

★**Cal., Eureka**—See "Streets and Roads."

REINFORCED CONCRETE

Proposed Work

Pa., Hazleton—Duplan Silk Co. soon lets contract 5-story, 100x700-ft., rein.-con. mill. About $500,000. Lockwood, Greene & Co., 101 Park Ave., New York, engrs.

O., Akron—Akron Biltwell Tire & Rubber Co. plans rein.-con. factory. About $125,000. W. C. Owen & Co., archts. 1900 Euclid Ave., Cleveland, soon receives bids.

O., Toledo—Moreton Truck and Storage Co. is having plans prepared by E. Thal, archt., Ohio Blk., for 4-story concrete warehouse on 23 Huron St.

Ill., Highland Falls—City rejected bids building one 150-ft. and two 120-ft. rein.-con. bridges. E. A. Warren, clk.

Wis., Milwaukee—Illinois Steel Co., Bay View, plans 600-ft. concrete dock equipped with Hoover & Madock unloader, capacity 500 tons, at south end of Jones Island.

Wis., Milwaukee—Bd. School Dirs. retained Van Ryn & DeGelleke, archts., Caswell Blk., to prepare plans 3-story, 91x285-ft., rein.-con. school and boiler house, Hartford Ave. Contract will be let in June. F. M. Harbach, secy.

Neb., Clay Center—County soon lets contract concrete bridges.

Neb., Geneva—County will let contract in May 13 concrete highway bridges.

Bids Desired

Pa., Uniontown—Until May 1 by County double 32-ft. rein.-con. bridge over Rowe Run, Redstone Twp.; 30-ft. rein.-con. bridge over Meadow Run, Wharton Twp. and 32-ft. rein.-con. bridge over Galley Run between Connellsville and Upper Tyrone Twp. H. Kisinger, co. engr.

Fla., Bradentown—Until May 7 by R. H. Roesch, co. clk., for rein.-con. bridge over Manatee River between Bradentown and Palmetto.

Miss., Meridan—Until May 7 by County for concrete bridge on Marion Rd. W. R. Pistole, clk.

Ind., Richmond—(Official)—Until May 12 by co. comrs. rein.-con. bridge over Whitewater River on Main St.; advertised in this issue.

(Official)—Until May 12 by co. comrs. rein.-con. bridge over Whitewater River on South G St.; advertised in this issue.

Ia., Muscatine—Until May 7 by Bd. Supervs. for 2 rein.-con. bridges, 1 located on Muscatine-Montpelier Rd. 2 mi. east of here.

Kan., Sharon Springs—Until May 7 by County for 50-ft. rein.-con. bridge, 16-ft. roadway.

Tex., Temple—Until May 1 by Scott Eng. Co., 4114 Cedar Springs Ave., Dallas, for rein.-con. conduit about 800 ft. long, installing steam supply and return pipes for Temple Sanatarium.

Ore., Holbrook—Until May 7 by Co. Comrs. for rein.-con. viaduct No. 6, on St. Helens Rd., 240 ft. long, 20-ft. roadway.

Ore., Vale—(Official)—Until May 16 by R. E. Weant, pres., Warmsprings Irrigation Dist., for concrete dam of gravity type for retention of water of Middle Fork of Malheur River; also until May 15 for purchase of $750,000 bonds for reservoir.

Cal., Ventura—Until May 3 by Bd. Supervs. for rein.-con. bridge across tracks Southern Pacific R.R. near Hasson.

Reinforced Concrete (Continued)

Prices and Contracts Awarded

(★Indicates award of contract)

★**N. J., Passaic**—Armour & Co., Monroe St., let contract 4-story, 100 x 900-ft., rein.-con. factory to Moody Engr. Co., 115 Broadway, New York.

★**Pa., Ambridge**—City let contract concrete reservoir, 100,000 gals. capacity, piping, etc., to R. V. Baldwin, Coraopolis, $45,000.

★**Ia., Tipton**—(Official)—Bd. Supervs. let contract 44 rein.-con. box culverts and 3 I-beam bridges to S. R. Johnston, Tipton, $13,336 and A. H. Stoeker, Stanwood, $6348. Noted Apr. 5.

★**N. D., Minot**—Ely & Young let contract 2-story, 75 x 140-ft. concrete garage to W. S. Kingsley & Co., $75,000.

★**Mo., Kansas City**—Bd. Park Comrs. let contract rein.-con. retaining wall on Gilan Rd. between Grand and McGee St. to P. A. Hartung, Bryant Bldg., about $21,314.

STREETS AND ROADS

Proposed Work

Me., Eden—Town plans to spend $40,000 repairing roads, bituminous macadam. C. F. Paine, treas.

Mass., Andover—Bd. Pub. Wks. appropriated $38,500 to pave streets. F. L. Cole, supt.

Mass., North Adams—City appropriated $24,000 for paving on State and Union Sts.; also $10,000 for extension to water service to high school. F. W. Proctor, city engr.

Conn., New London—(Official)—City soon lets contract paving Broad St., Hillside brick. C. R. Darrow, highway comr.

N. Y., Gloversville—City plans to pave East Fulton St., concrete. H. J. Hammer, city engr.

N. J., Paterson—Bd. Pub. Wks. voted appropriation of $15,000 for asphalt paving. H. J. Hardes, city engr.

N. J., Paulsboro—City plans to build macadam roads. W. H. Flowers, Jr., city treas.

N. J., Salem—Federal Aid Fund appropriated $59,000 for road from Sharpstown to Woodstown. A. Keasbey, engr.-in-charge.

Pa., Doylestown—City plans to improve various streets. About $11,000.

Pa., Huntingdon—City voted $100,000 bonds for street paving.

Va., Buena Vista—City plans to build 5-mi. road. C. L. Johnson, city engr.

Va., Covington—City voted $150,000 bonds to pave streets. J. H. Overholt, clk.

Va., Graham—City plans to resurface 2-mi. macadam streets.

W. Va., Bluefield—City plans paving work to cost $50,000, bituminous macadam. H. O. Wiles, city engr.

N. C., Durham—City plans to pave various streets. About $300,000 to $400,000. H. W. Kueffner, city engr.

N. C., Whiteville—City plans to pave 2-mi. streets. W. E. MacDaniel, clk.

Fla., Bushnell—(Official)—County voted bonds to build 115-mi. road. W. M. Francisco, Zephyrhills, co. engr.

Fla., Orlando—See "Miscellaneous."

Miss., Greenville—Co. Comrs. plan to build 158-mi. highways, concrete.

Miss., Yazoo City—Highway Comn. soon lets contract improving certain roads; Dist. No. 3, asphaltic concrete, plain concrete, brick gravel or stone with asphaltic wearing surface, including 31.57-mi. clearing and grubbing, 34.79-mi. subgrade, 346,000-cu.yd. grading, 5,173 lin.ft. 15- to 30-in. pipe, 190-cu.yd. plain concrete, 450-cu.yd. rein.-con., 55,000-cu.yd. gravel or stone and 247,000-sq.yd. asphaltic surface. T. H. Craig, chn.

La., Benton—County plans to gravel 14-mi. road. J. M. Henderson, co. clk.

La., Crowley—County retained H. W. Bell, engr., Laurel, Miss., to make plans building roads in Dist. No. 1. About $400,000.

La., Franklinton—County plans election to vote on bonds to build roads.

Tenn., Greenville—County plans to build 22-mi. road, water-bound macadam. C. E. Colle, co. engr.

Tenn., Jonesboro—Co. Good Rd. Comn. to let contract in May for 250-mi. 10-, 14- and 15-ft. macadam roads. About $761,775. E. J. Baxter, secy.

Tenn., Jonesboro—County to sell $750,000 bonds Apr. 30 to build roads. Noted Apr. 12.

Tenn., Lawrenceburg—County sold $350,000 bonds to build roads. R. M. Baker, ch. engr. rd. comn.

Tenn., Newport—County plans improving 30 mi. of road during 1917.

Ky., Augusta—County voted $200,000 bonds for road work. W. V. Weldon, Brooksville, co surv.

Ky., Battlesburg—County plans 50 mi. of roads. Fred Geisling, co. engr.

Ky., Danville—County having plans prepared for 4½-mi. water-bound macadam road, 14 ft. wide. J. B. Nichols, co. clk.

Ky., Falmouth—County plans to build 18-mi. road. B. B Barton, rd. engr.

Ky., Flemingsburg—County plans to resurface 2½-mi. road. R. Cassidy, co. engr.

Ky., Franklin—County plans to build 5-mi. Springfield Rd. O. Hayden, Jr., engr.

Ky., Hodgenville—County plans to build 4-mi. road, macadam. A. B. Trogman, co. engr.

Ky., Maysfield—County plans to improve about 75 mi. roads. H. Ford, co. engr.

Ky., Shelbyville—County plans to resurface 18-mi. road. G. M. Middleton, rd. engr.

O., Cambridge—County plans to issue $40,000 bonds to improve roads in Valley Twp.

O., Canton—City plans to improve portion Herbrick Ct., N. E. W. E. Sarver, city engr.

O., Cincinnati—City plans to pave portion Gilsey and Verne Ave., also Gilman and Hoffner St. F. Krug, city engr.

O., Canton—See "Sewers."

O., Cleveland—City plans to pave portions East 106th, Andover, West 68th and West 91st St., also Standhope and Elchorn Ave. R. Hoffman, city engr.

O., Cleveland—County to sell $73,323 bonds May 9 to improve Lee Rd. E. G. Krause, clk.

O., Dayton—Co. Comrs. soon let contract paving portion Keowee St. About $56,000.

O., Lima—City plans to improve portion Metcalf St. B. C. Miller, city engr.

O., Marion—City plans to build sidewalks on Spencer, Ivanhoe and Waterloo St.; also Grant Ave. E. S. Ault, city eng.

O., St. Clairsville—(Official)—County to sell $56,697 bonds May 14 to improve roads B. W. Hopkins, co. aud.

O., Sidney—City plans to improve portion Dallas St. T. Blake, city engr.

Mich., Big Rapids—County plans to build several miles of road. A. Willitts, co. engr.

Mich., Manistique—County plans to pave 75-mi. road, macadam. J. E. McCarthy, co. engr.

Mich., Newberry—County plans to build 10-mi. road, macadam. J. A. Broad, co. engr.

Ill., Bloomington—City plans to pave East Grove St, creosote blocks. About $40,230. E. H. Packard, city engr.

Ill., Deland—Village to let contract about July 1, 1½-mi. brick pavement, north and south of village to connect with state-aid roads T. J. Anderson, Monticello, supt. of highways.

Ill., Freeport—County plans to spend $70,000 during year as follows: Grading 350 mi. road (county furnishing tractive power), $10,500; dragging 300 mi. road, $4000; building gravel roads, $4000; bridges and culverts, $40,500; machinery, $5000; filling ditches, $6000. O. G. Hiveley, supt. highways.

Ill., Mattoon—City plans to repave portion Broadway and Champaign Ave., brick. J. A. Goetz, city engr.

Ill., Ottawa—City to let contract in May for loop paving. About $100,000. G. L. Farnsworth, city engr.

Ill., Peoria—County defeated $1,700,000 bond issue to improve roads.

Ill., Rock Island—Bd. Local Improv. plans paving 24th St., 18th and 23rd Aves., brick, 27 ft wide. W. Treichler, city engr.

Ill., Salem—City plans to pave 5-mi. streets. H. H. Kaufman, city treas.

Wis., Jefferson—County plans to spend $30,000 to improve roads. R. D. Royce, Ft. Atkinson, highway comr.

Wis., Portage—Co. Comrs. plan to spend $100,000 to improve roads. J. T. Henton, Doylestown, highway comr.

Ia., Davenport—City plans to grade 16 streets. About $10,905. A. R. Boudenot, city engr.

Ia., Rock Rapids—City plans to pave 25 blocks. W. F. Guigrich, city engr.

Minn., Brainerd—City plans to pave 15 blocks, concrete. L. Kindsen, city engr.

Minn., Cambridge—County plans to spend $40,000 during year to improve state roads. C. G. Smith, co. aud.

Minn., Glenwood—County plans to spend $30,000 building roads during year. L. Martin, co. engr.

Minn., Litchfield—County plans to spend $40,000 to improve roads. P. P. McNamara, highway engr.

Minn., Mankato—County plans to grade and gravel roads. N. Moe, co. engr.

Minn., Minneapolis—Legislature passed bill enabling county to build and maintain roads to cost $440,000. E. E. Terrell, Minneapolis, engr.

Minn., Slayton—County plans to build 25-mi. state road. P. E. Minder, co. engr.

Minn., Virginia—City plans to pave and curb 21 blocks, also build cement sidewalks on 21 blocks. E. F. Johnson, city engr.

Minn., Windom—County plans to build 25-mi. turnpike. S. A. Brown, co. aud.

Kan., Independence—County preparing plans to improve roads and build bridges during year. About $55,000 and $25,000, respectively.

Kan., Sharon Springs—County plans to resurface 90-mi. dirt roads. E. R. Ellis, co. clk.

Neb., Schuyler—See "Excavation and Dredging."

Neb., Superior—City voted $25,000 bonds to pave streets.

Wyo., Meeteetse—County plans election to vote on $32,000 bonds for road work.

Mont., Butte—County plans to resurface 9-mi. road. C. Feeney, co. engr.

Mo., Hillsboro—County plans paving about 500 mi. roads with $500,000 bonds recently issued H. D. Griffiths, co. engr.

Mo., Houston—County plans to grade 100-mi. road. G. Murphy, co. engr.

Mo., Jackson—County plans election to vote on $750,000 bonds to build roads.

Mo., Salem—Co. Comrs. plan to issue $[illegible],000 bonds to build roads. J. H. McDonald, clk.

Mo., Sikeston—County election May 17 to vote on $800,000 bonds to build roads.

Mo., Springfield—City plans to improve portion roadway Myrtle St., tarvia filled macadam. O. D. Christman, city engr.

Mo., Waynesville—County plans to grade 40-mi. road. A. G. Williams, co. engr.

Ark., Des Arc—City sold $20,000 bonds to improve sidewalks in Improv. Dist. No. 1.

Ark., Eureka Springs—County rejected bids road between Eureka Springs and Benton Co. line. R. D. Alexander, engr.

Ark., Walnut Ridge—County sold $120,000 bonds to improve roads in Dist. No. 1 and $20,000 bonds for Dist. No. 2.

Tex., Giddings—County preparing plans 100-mi. gravel road, Dist. No. 1. J. H. Tate, co. judge.

Tex., Hereford—County prepared plans building road and bridges in connection with Ozark Trail highway. T. E. Huffman, co. highway engr.

Tex., McAllen—See "Sewers."

Tex., Pittsburg—County election May 11 to vote on $110,000 bonds to build 32-mi. hard-surfaced roads in Precinct No. 2.

Tex., San Angelo—City plans to repave Devine Independent School Dist. Cost, $25,000.

Tex., Waco—City voted $50,000 bonds to improve streets and install sewers. G. B. Gunley, city engr. Noted Apr. 12.

Tex., Wheeler—County voted $35,000 bonds to build roads.

Tex., Wichita Falls—County election May 24 to vote on $750,000 bonds to build roads.

Okla., Chickasha—County plans to improve 127-mi. state highway. E. E. Colby, co. engr.

Okla., Muskogee—County defeated $1,000,000 bonds to build 160 mi. road and bridge over Arkansas River.

Okla., Purcell—County voted $20,000 bonds to improve roads. G. H. Thomas, clk.

Okla., Tishomingo—Gibbs and Garner Twp., Johnston Co., election May 12 to vote on $12,000 bond issue each to improve roads.

Okla., Tulsa—City plans to pave 19 streets. E. C. Hughes, city engr.

Okla., Tulsa—City voted $100,000 bonds for boulevard and to improve park.

Utah, Ogden—See "Sewers."

Ariz., Clifton—County to vote May 19 on $200,000 bonds for Clifton-Springerfield Highway.

Wash., Aberdeen—City soon lets contracts paving and sidewalks on portion of E. 1st St., $32,791, asphalt, $28,307, concrete; Hume St. and Michigan Ave., $13,256, asphalt, $12,482, asphaltic concrete, $11,966, concrete.

Wash., Ellensburg—City soon lets contract concrete walks on portions of Chestnut, Walnut, Sampson, Sprague, 7th and 8th St. About $16,000. A. F. Edward, city engr.

Wash., Everett—Co. Comrs. rejected only bid for Scenic Highway. New blds. About $11,000 W. C. Bickford, co engr.

Wash., North Yakima—Co. Comrs. passed resolution to build McClellan Pass Highway from the Nile through Rainer Natl. Park and appropriating $17,625 for county's share, state to contribute $32,375 and Government $50,000. C. E. Barrett, audr.

Wash., Seattle—County to build 6-mi. highway connecting Kirkland and Redmond. S. J. Humes, co. engr., prepared plans.

Ore., Astoria—City plans to spend about $250,000 for paving and improving streets during year and $50,000 for sewers. G. T. McLean, city engr.

Ore., Marshfield—A. Hauperman, city engr., preparing plans grading and hardsurfacing portion North Broadway. About $35,000.

Cal., Alturas—Bd. Supervs. plan election to vote on $300,000 bonds for highway work.

Cal., Auburn—City voted to pave all main streets.

Cal., Marysville—County plans highway comprising 99 mi. gravel road and 9 mi. oil macadam road. About $278,000.

Cal., Modesto—See "Sewers."

Streets and Roads (Continued)

Cal., **Holliston**—Town plans to pave West 6th and 7th St. C. H. Wagner, town treas.

Cal., **Oakland**—Mt. Diable Estate, Broadway and 15th St. plans 3½-mi. highway near Mt. Diable.

Cal., **Santa Barnara**—City preparing plans paving 17 blocks on Bath St., warrenite. A. B. Cook, city engr.

Cal., **Tulare**—City Trus. plan paving several streets through town to connect end of state and county highway; cost, $35,000.

Cal., **Visalia**—County sold $1,000,000 bonds of the $2,200,000 issue for constructing highways. B. O. Lovelace, co. surv.

Bids Desired

Me., **Bangor**—Until May 14 by City paving Main St., macadam. F. E. Pressey, city engr.

R. I., **Providence**—(Official)—Until May 2 by State Bd. Pub. Rd. for 375,000-gal. asphaltic oil or 150,000-gal. refined tar; advertised in this issue.

Conn., **Bristol**—(Official)—Until May 1 by T. B. Steele, city clk., for grading, road surfacing, etc.; advertised in this issue.

Conn., **Darien**—(Official)—Until May 1 by R. N. Greene, supt. highways and bridges, paving 12,000-sq.yd.; advertised in this issue.

N. Y., **Albany**—(Official)—Until May 1 by State Highway Comn., 55 Lancaster St., highways in various counties; advertised in this issue.

N. Y., **Brooklyn**—Until May 2 by L. H. Pounds, boro. pres., regulating, grading, curbing and laying sidewalks on portion Cedar Pl.; regulating and paving with permanent asphalt on 6-in. concrete foundation portion Riverdale and Greene Ave.; regulating and repaving with permanent Grade 1 granite pavement on 6-in. concrete foundation portion of Jay, Prospect, River and Sands Sts., Park and Utica Ave., Union Lane and Plaza Space; regulating and grading sidewalks on Washington, Franklin and Liberty Aves.; laying cement sidewalks on portion 4th Ave. and Pilling St.; furnishing and delivering about 63,-708 ft. B. M. lumber, 800-ft. of which shall be spruce and remainder long leak yellow pine.

N. Y., **Dunkirk**—(Official)—Until May 1 by Common Council paving various streets; advertised in this issue.

N. Y., **Islip**—(Official)—Until Apr. 30 by C. D. Schlemmer, supt. highways, paving 2900-cu.yd. concrete and 3000-sq.yd., also for warrenite resurfacing; advertised in this issue. Noted Apr. 5.

N. Y., **Olean**—(Official)—Until May 14 by Comrs. Pub. Wks. for brick pavement, etc., on East Pine St.; advertised in this issue.

N. Y., **Watervliet**—(Official)—Until May 14 by Bd. Estimate and Apportionment paving 6th Ave. and 15th St.; advertised in this issue.

N. J., **Bound Brook**—(Official)—Until May 8 by Mayor and Council laying 13,000-sq.yd. vitr. brick paving with appurtenances, etc.; advertised in this issue.

N. J., **Trenton**—(Official)—Until May 1 by Bd. Freeholders repairing Greenwood Ave. and Lawrenceville Rd., bituminous concrete, also installing new drains, new foundations, etc. H. F. Harris, co. engr. Noted Apr. 12.

Pa., **Northampton Heights**—(Official)—Until May 7 by Boro. Council for 9000-sq.yd. paving; advertised in this issue.

Pennsylvania—Until May 3 by State Highway Comr. Harrisburg for following roads: Dauphin Co., reconstructing 1270 lin.ft. vitr. block pavement in Swatara Twp.; Clarion Co., 14,128 lin.ft. vitr. block pavement Pain Twp.; Cambria Co., 32,922 lin.ft. vitr. block and reln.-con. pavement, Jackson and East Taylor Twp.; Washington Co., 36,170 lin.ft. vitr. block and reln.-con. pavement in Cecil and North Strabane Twp.

Md., **Oakland**—(Official)— Until May 3 by Co. Comrs. building 3.02-mi. state aid highway. W. G. Meyer, clk.

W. Va., **Morgantown**—Until May 7 by Co. Clk., building and improving 24.1-mi. road, brick, Logan Dist., R. M. Wilson, co. engr.

N. C., **Lenoir**—(Official)—Until May 30 by Mayor for complete sidewalk and street paving; advertised in this issue.

Ga., **Augusta**—(Official)—Until May 10 by Streets and Drains Com. paving portion Monte Sano Ave.; advertised in this issue.

Fla., **Lakeland**—Until May 14 by city for purchase of $80,000 bonds to improve streets. J. F. Cox, mayor and chn. finance com.

Ala., **Eutaw**—Until May 14 by Co. Comrs. grading and draining portion State Trunk Rd. No. 7. W. S. Keller, Montgomery, state highway engr.

Miss., **Brookhaven**—Until May 7 by Chancery Clk., improving 19.7-mi. roads in Dist. No. 4. C. F. Sherman, McComb, engr.

Miss., **Columbus**—Until May 3 by Guerry, chn. comrs. Artesia Rd. Dist., Artesia, for 7-mi. rock road, and by D. A. Burgin, chn. comrs. Mayhew Rd. Dist., Mayhew, for 3-mi. rock road.

Miss., **Indianola**—Until May 9 by Bd. Highway Comrs., Dist., No. 2 & 3, for permanent highways of concrete, gravel and asphalt surface, also drainage; about $200,000 available. Stein & Harbert, Indiana, engr. Dist. No. 3, H. S. Gove, Moorehead, engr. Dist. No. 2.

La., **Convent**—Until May 1 by F. M. Bertaut, secy. police jury, Lauderdale, for 27,800-yd washed gravel on east bank of Mississippi River, 44,700-yd. washed gravel on west bank, 48,000-yd. sand and clay gravel on east bank, also for building gravel roads and about 400 25-ft. culverts.

La., **Lake Charles**—(Official)—Until May 1 by H. G. Chalkley, pres. police jury, 70,000-sq.yd. concrete roads, Calcasieu Parish; advertised in this issue.

O., **Cleveland Heights**—(Official)—(Warrensville P. O.)—Until May 7 by H. H. Canfield, clk., improving portion Glenmont Rd.

O., **Dayton**—Until May 3 by W. H. Azsling, clk. bd. co. comrs., for paving portion Keowee St., brick.

O., **Kent**—(Official)—Until May 21 by F. Bechtle, clk., improving North Prospect St., Park and Pioneer Ave., including 9000 sq.yd. paving, 8000 lin.ft. curb, storm drains and catch basins. E. S. Roger, engr.

O., **Newark**—(Official)—Until May 22 by E. H. French, co. clk., improving portion Coshocton St., brick.

O., **Wapakoneta**—Until about July 1 by City paving 13,530-sq.yd. on Blackhoof and Defiance St. J. H. Meyer, city engr.

Indiana—By co. comrs. for constructing roads as follows: May 7: South Bend, cement road in Penn Twp.; A. F. Wolf, co. aud. Hartford City, roads in Washington Twp.; J. L. McGeath, co. aud. Franklin, crushed stone road Marion Twp.; J. C. Cregg, co. aud. Angola, three concrete roads; I. W. Pence, co. aud. May 8: Marion, stone and tar binder road, Fairmount Twp.; M. McRae, co. aud. Martinsville, gravel road in Baker Twp., stone road in Jackson Twp.; S. Watson, co. aud. Danville, 2 roads in Center Twp.; C. M. Haven, co. aud. Wabash, stone road, Chester Twp., 2 gravel roads in La Gro Twp.; F. P. Kircher, co. aud. Peru, macadam road in Pipe Creek Twp.; F. H. McElheny, co. aud. Rensselaer, 4 stone roads in Newton Twp.; J. P. Hammond, co. aud. Monticello, crushed stone roads in Honey Creek and Union Twps.; A. G. Fisher, co. aud. Decatur, macadamized roads in Monroe, Blue Creek, St. Mary's, Washington, Kirkland Twps.; J. Mosure, co. aud. Princeton, stone roads in Columbia, White River and Barton Twps.; J. H. Armstrong, co. aud. May 9: Lafayette, 2.52 mi. gravel roads in Wayne and Union Twps.; G. W. Baxter, co. aud. May 10: Laporte, roads in Dewey and Center Twps.; F. A. Hausheer, co. aud. May 12: Muncie, gravel or macadam roads, Perry Twp.; F. M. Williams, co. aud. May 14: Indianapolis, gravel roads in Center and Perry Twps.; L. K. Fesler, co. aud. Peru, gravel and concrete road on Peru and Erie Twps. line.; F. K. McElheny, co. aud.

Mich., **Albion**—(Official)—Until May 9 by City Council resurfacing about 7500-sq.yd.; advertised in this issue.

Mich., **Bessemer**—Until May 1 by Co. Rd. Comrs. clearing, grubbing and grading 5 mi. road. C. F. Winker, engr.

Ia., **Toledo**—Until May 1 by Co. Clk. for 6-mi. permanent grading, including 50,000-cu.yd. earth work. A. R. Hebenstreit, co. engr.

S. D., **Spearfish**—Until May 7 by J. M. Ramsey, city aud., building crosswalks, sidewalks, culverts or other concrete work during year.

Ark., **Texarkana**—(Official)—Until May 10 by L. Josephs, secy. Miller Co. Highway and Bridge Dist., for 70-mi. highways, advertised in this issue.

Ariz., **Yuma**—(Official—Until May 1 by City paving 32,000-sq.yd.; advertised in this issue.

Wash., **Everett**—Until Apr. 30 by Co. Comrs. hard surfacing Bond Issue Rds. Nos. 29 and 31. —Until Apr. 30 by Co. Comrs. building permanent highway No. 30.

Wash., **Port Orchard**—Until May 8 by J. M. Peterson, co. aud., for building portion highway No. 250.

Wash., **Shelton**—Until May 8 by I. W. Richardson, co. aud., for permanent highway No. 4. About $13,684. A. L. Ward, co. engr.

Ore., **Coquille**—Until May 5 by L. W. Oddy, co. clk., building 3 highways. Bonds for $362,000 recently voted for work.

Cal., **Bakersfield**—Until May 7 by Bd. Supervs. grading, paving and resurfacing 7.06-mi. and building bridges and culverts on Div. 8, Sec. 2, Old River-Maricope Co. Highway.

Cal., **Santa Barbara**—Until May 3 by A. C. Hall, city clk., grading and building concrete curbs and gutters on Salinas and Carpenteria St.

Prices and Contracts Awarded

(★Indicates award of contract)

Mass., Boston—City received low bid 400,000-gal. road oil from Boston Engr. Supply Co., 159 Pearl St., $35,820.

★**Mass., Fall River**—City let contract Hassam grouted granite block pavement to Simpson Bros. Corp., 166 Devonshire St., Boston; bituminous pavement to Warren Bros. Co., 142 Berkeley St., Boston.

★**Connecticut**—C. J. Bennett, state highway comr., let contracts for road work as follows: Milford Twp., 15,600 lin.ft. rein.-con. on Boston Post Rd. to R. D. Daley Co., 6 Church St., New Haven, about $65,035; Waterford Twp., 13,-200 lin.ft. rein.-con. Norwich, New London Turnpike, Maher & Sprague, Inc., 185 Church St., New Haven, $52,028; Killingly Twp. 3,439 lin.ft. rein.-con. on Main St., Conn. Hassam Pav. Co. 902 Chapel St., New Haven, $15,300; Stonington Twp., 2330 lin.ft. rein.-con. on West Broad St., F. D. Miller, Norwich, $10,820; New Hartford Twp., gravel construction on Nepaug Ave., Acme Eng. Co., 868 Main St., Hartford, $11,300; Wilton Twp., section of native stone construction on Belden Hill Rd., H. Sanford Osborn Redding Ridge, $14,956.

Conn., Derby—City received bids paving about 5350 lin.ft. on Derby Ave., (a) Hassam Bicomac, (b) asphalt, (c) warrenite, (d) topeka, from Conn. Hassam Paving Co., 902 Chapel St., New Haven, (a) $22,485; Warren Bros. Co., 142 Brekeley St., Boston, (c) $22,258; Union Paving Co., Schenectady, (b) $22,349, (d) $21,350; E. P. Tracy, 200 Olivia St., Derby, (b) $22,167, (d) $21,986; C. W. Blakeslee & Sons, 58 Waverly St., New Haven, (b) $26,801, (d) $24,985. V. D. Clark, city engr.

N. Y., Brooklyn—L. H. Pounds, boro pres., received low bids paving (a) Rockaway Ave., (b) South 8th St., (c) 8th St., from Ulrich and Persicino, 513 Midwood Ave., (a) $12,017; (b) $17,-923; Leonard Paving Co., (b) $11,481; A. Grossman, 583 Bedford Ave., (c) $12,248.

N. Y., New York—(Official)—M. M. Marks, boro. pres., received low bids paving portion (a) McDougal St., (b) 3rd Ave., (c) 36th St., from Sicilian Asphalt Co., 41 Park Row, (a) $10,328; Astoria Contr. Co., 169 Hunter Ave., Astoria, (b) $251,335; Asphalt Constr. Co., Madison Ave. and 137th St., (c) $26,695, W. J. Fitzgerald, 517 W. 45th St., (c) $26,695. Noted Apr. 19.

N. Y., New York—C. Ward, comr. of park bd., Municipal Bldg., received low bids repaving with sheet asphalt and asphalt block on concrete foundation portions of Eastern Blvd., Bronx boro. from: Davney Asphalt Co., Inc., 52 Vanderbilt Ave., $47,699; Asphalt Constr. Co., Madison Ave. and 137th St., $49,941; Uvalde Asphalt Paving Co., 1 Broadway, $52,125. Noted Apr. 5.

★**N. Y., New York**—(Official)—R. A. C. Smith, comr. docks, let contract repairing asphalt pavement marginal street and piers, North, East and Harlem Rivers, Contract 1563, to Uvalde Asphalt Paving Co., 1 Broadway, $13,950. Noted Apr. 5.

★**N. J., Jersey City**—County let contract paving Communipaw Ave. and portion Hudson Blvd. to Clinton Contr. Co., 306 Charles St., West Hoboken.

N. J., Newark—Bd. St. & Water Comrs. received low bids grading, curbing and paving Blanchard St. from, J. F. Chapman, Hillside, broken stone, $24,492; with slag, $22,852; Mt. Pleasant Ave., wood block on old concrete foundation, Newark Paving Co., 133 1st St., $26,393; asphalt, Standard Bitulithic Co., Essex Bldg., $18,596.

N. J., Paterson—City received low bid paving portion Broadway, granite block, from L. Cramer, 99 Ward St., $15,800.

★**Pa., Appolo**—(Official)—Boro. let contract paving, grading and curbing Armstrong Ave., North 9th, Railroad, Grace, North 2nd and South 4th St. to Keystone Constr. Co., Meadville.

★**Pa., Darby**—Boro let contract paving various streets to Union Paving Co., 30th and Locust St., Phila., and J. Kelly, Darby.

Pa., Greensburg—(Official)—County received low bids improving highways, (a) Webster-Pittsburgh-Uniontown Pike, (b) Ft. Robinson-School House Rd., (c) Parnassus-New Kingston Rd., (d) Scotdale-Greensburg Rd., Sect. 3, (e) Oak Grove-Wilpen Rd., (f) Harrison City-Export Rd., (g) Greensburg-Scottdale Rd., Sect. 2, from: Bell-Bockel Co., Central Tr., Altoona, (a) $56,-508, (b) $101,209, (f) $156,319, (g) $93,845; Rinehart Bros. Co., East Liverpool, O., $56,-983; McLaughlin Contr. Co., Germania Bank Bldg., $88,217.

★**Pa., Wilkes-Barre**—City let contract paving streets and installing sewers to D. Buckley & Son, 40 Oregon St., $12,000.

★**Va., Gate City**—(Official)—County plans to build 100-mi. graded roads this year. Work will be done by contract, force account and convict labor. R. J. Phipps & Co., Coeburn, and W. T. Sneed & Co., Norton awarded contract for 1st, 15-mi. work. Noted Apr. 5.

★**W. Va., Welch**—County let contract 45-mi. concrete road to Harrison Eng. Constr. Corp., Morgan Bldg., Buffalo, and Consolidated Eng. Co., 243-59 Calvert Bldg., Baltimore.

★**Ala., Birmingham**—County let contract 20-mi. gravel road, including pipe culverts, to Middleton & Smith, Brookhaven, Miss., $37,941.

★**Ky., Madisonville**—County let contract building 2-mi. road, macadam, to W. E. Stone, Madisonville, $13,355.

★**O., Cincinnati**—Bd. Control let contract improving portion St. Clair St., Jefferson and Glendora Ave., to Henkel & Sullivan, 710 Mercantile Library Bldg., $12,775.

Streets and Roads (Continued)

★**O., Cincinnati**—Dept. Pub. Serv. let contract cement sidewalks in Dists. Nos. 1, 2, 3 and 4 to C. Kuhl Art Stone Co., 603 Reading Rd., $26,000.

★**O., Cleveland**—County let contract paving and sewering portion Anderson Rd. to C. Dempsey, 1366 Noble Rd., $20,700.

★**O., Montpelier**—(Official)—City let contract paving East Washington and East Ave., Court, State and Jonesville St. to Brook Constr. Co., 2104 Miner St., Ft. Wayne, Ind., $51,622.

★**O., Toledo**—City let contract paving Elm St. to H. P. Streicher, 317 Terminal Bldg., $70,475; Miami St. to Harris & Tansey, 221 Nasby Bldg., $71,687.

★**O., Youngstown**—City let contract grading Madison Ave. to Victor Olson Contr. Co., Youngstown, $27,383.

★**Ind., New Albany**—(Official)—County let contract 7700-ft. road to S. T. Games, R. F. D. No. 3, $12,700. Noted Apr. 12.

★**Mich., Battle Creek**—County let contract, 5¾ mi. brick pavement to Stoddard Constr. Co., Grand Rapids, $135,298.

★**Ill., Bloomington**—City let contract paving portion South Main St. to I. D. Lain, $38,800.

Wis., Plymouth—City received low bids about 15,446 sq.yd. pavement, also concrete curb and gutter, as follows: Rein.-con. paving with curb and gutter, F. Radloff, Plymouth, $30,816, rein.-con. paving with integral curb and gutter $31,-030; asphaltic concrete. Williston Constr. Co., Chicago, $35,160; asphaltic concrete, type A, $31,-882; brick, Minco Co., Richland Center, $14,023.

★**Minn., Duluth**—City let contract 200,000 gal. oil for oiling 79 streets to Standard Oil Co., Sherwood Bldg., Duluth.

Minn Minneapolis—City received only bid for 50,000 gal. refined tar from Barrett Bros., 17 Battery Pl., New York, 8c. per gal. f.o.b. cars Minneapolis, 8½c. f.o.b. factory, 10c. distributed on streets.

★**Kan., Parsons**—(Official)—City let contract paving 25,000-yd. to Elliott & Vance, Parsons, $53,000.

★**Tex., Plainview**—(Official)—City let contract grading, draining and paving 70,000-sq.yd. to J. N. Jordan & Co., Plainview. Noted Apr. 5.

★**Cal., Eureka**—County let contract 4-mi. Lord-Ellis Highway, including 14 bridge and culverts, to E. B. Anger, Blue Lake, $11,785.

Cal., Modesto—Bd. Supervs. received low bids concrete highways from Rogers Bros. Co., 506 Hiberian Bldg., Los Angeles, at $107,000 for about 9.876 mi. on Westley-Crows Landing unit; Teichert & Ambrose, Sacramento, at $130,000 for 8.222 mi. on Waterford unit.

★**Cal., Modesto**—City let contract Denair-Irvin city highway to Johnson & Larsen, Turlock, $76,-500 for concrete pavement and 70c. per cu.yd. for excavation.

Cal., San Diego—County received low bid building 9.4-mi. Laguna Rd., Cleveland Natl. Forest, from C. L. Hyde Constr. Co., Spreckles Bldg., $17,935.

★**Cal., Whittier**—City let contract paving portion Painter Ave. to Fairchild Gilmore-Wilton Co., Pacific Electric Bldg., Los Angeles, about $73,000.

★**Ont., Woodstock**—(Official)—County plans to spend $10,000 to repair roads by day labor. Noted Apr. 12.

RAILWAYS
STEAM AND ELECTRIC

Proposed Work

Mass., Malden—See "Industrial Works."

N. Y., Albany—New York Central & Hudson River R.R. (branch of New York Central R.R., lines east of Buffalo) asked City Council for permission to lay 500-ft. branch track on Tivoli St. G. W. Kittredge, Grand Central Terminal, New York, ch. engr.

N. J., Camden—Pennsylvania R.R. made surveys electrifying line from Camden to Pemberton and from Camden to Trenton. A. C. Shand, Broad St. Station, Phila., ch. engr.

N. J., Newark—Lehigh Valley R.R. granted permission by Bd. Works to extend tracks from Sherman Ave. to point near East Peddie St. E. B. Ashby, 143 Liberty St., New York, ch. engr. — Pub. Serv. Ry. granted permission by Bd. Pub. Utility Comrs. of New Jersey to issue $2,000,-000 capital stock for extensions. R. E. Danforth, Pub. Serv. Bldg., Broad and Bank St., Newark, vice pres. and gen. mgr.

N. J., Trenton—Pennsylvania R.R. granted permission by Bd. Pub. Utilities to issue $60,000,000 bonds, $26,370 of which will be used to reimburse company for expenditure, and balance for extensions, improvements, proposed new structures and equipment. A. C. Shand, Broad St. Station, Phila., ch. engr.

Pa., Titusville—Northwestern Pennsylvania Ry. plans extending line from Titusville to Cambridge Springs. E. O. Shryock, Meadville, gen. supt.

Md., Hagerstown—Cumberland Valley R.R. will grade and double-track 2-mi. section of line. J. H. Tonge, Chambersburg, supt.

N. C., Bridgewater—F. M. Bachman, 1320 North Meridian St., Indianapolis, interested in railway from Bridgewater southeast to timberlands in Rutherford and Cleveland Cos., 12 mi.

N. C., Grandin—Watauga & Yadkin River R. R. will extend line from Grandin to Lenoir, 14 mi. H. C. Landon, Wilkesboro, gen. mgr. and ch. engr.

Ga., Atlanta—North Georgia Mineral R.R., recently incorporated with $1,250,000 capital stock as subsidiary company of Louisville & Nashville R.R., plans line from Atlanta, northwest to point near Cartersville, through Fulton, Cobb, Cherokee and Bartow Cos. A. C. King and H. Spalding, Empire Bldg., Atlanta, interested.

Ga., Savannah—Savannah Electric Co. will apply to City Council for franchise to construct extension on Abercorn St. to 51st St. and west on 51st St. to Barnard St. H. C. Foss, Bay and Whitticker St., mgr.

Ala., Pyriton—Oden-Elliott Lumber Co., 1st Natl. Bank Bldg., Birmingham, acquired 73,000 acres timber land, and will construct 13-mi. railway from Pyriton.

Tenn., Bristol—Bristol Traction Co. will improve Holston Valley line. F. Dulaney, Georgia Ave. Extension, vice pres. and gen. mgr.

O., Canton—Wheeling & Lake Erie R.R. will lay 4 additional tracks from main line of road east of city to plant of United Alloy Co. and other mills in eastern section. W. L. Rohbock, Electric Bldg., Cleveland, ch. engr.

O., Cincinnati—Cincinnati Traction Co. asked permission of City Council to extend lines, also double-track line on Central Ave. from 4th St. to Freeman Ave. T. Fitzgerald, Traction Bldg., gen. mgr.

O., Cleveland—Cleveland Ry. granted permission to lay double track extension on East 155th St. from Lake Shore Blvd. to Waterloo Rd. to cost $60,000, half of which to be paid by Euclid Beach Co. G. L. Radcliffe, Leader News Bldg., gen. mgr.

Ind., Bicknell—Pennsylvania Lines West of Pittsburgh having surveys made for coal road extension from Indiana Creek Mine to Evansville, via Petersburg, Oakland City and Princeton. T. Rodd, Pennsylvania Station, Pittsburgh, ch. engr.

Ind., Indianapolis—Indianapolis Traction & Terminal Co. will construct single-track line with necessary switches on portion West 10th St. J. J. Mahney, Traction Terminal Bldg., supt.

Ill., Harvard—Chicago, Harvard & Geneva Lake Ry., Walworth, Wis., received franchise from City Council to build line on portion West Front St. C. F. Propst, Walworth, treas., gen. mgr., claim agt., and pur. agt.

Wis., Superior—Canadian Northern Ry. system secured right-of-way for railway from Superior to St. Paul. M. H. MacLeod, Winnipeg, Man., gen. mgr. and ch. engr.

Kan., Chanute—Atchison, Topeka & Santa Fe Ry. preparing plans yard revision and extension work, including over 1,000,00 cu.yd. grading. About $1,000,000. C. F. W. Felt, Railway Exchange Bldg., Chicago, ch. engr.

S. D., Kimball—Dakota Short Line Ry. plans railway from Kimball to Gann Valley. G. W. Adams, promoter.

Mont., Helena—Great Northern R.R. plans to spend $7,500,000 to improve lines in Montana during year including double tracking new line, building track and side track. A. H. Hogeland, 4th and Jackson St., St. Paul, ch. engr.

Tex., Beaumont—Texas Steel Co. granted franchise to construct and operate electric or gasoline railway from Magnolia Ave. street car line to plant; also steam railway from Atchison, Topeka, & Santa Fe R.R. tracks at junction of 4th St. in Steel City addition and Colliers Ferry Rd. to plant. L. P. Featherstone, pres.

Tex., Roby—Roby & Northern R.R. plans to extend line from Roby to Snyder, 40-mi. L. C. Eastland, Roby, vice pres. and gen. mgr.

Okla., Hooker—Panhandle & Western R.R. granted charter to build steam railway through Texas (Hooker, county seat), and Cimarron Counties to Mineral, (Kenton P. O.), about 100 mi. V. V. Grant, and S. W. Walker, Miami, and C. Witt, Oklahoma, incorporators. Noted Apr. 5.

Nev., Reno—Western Pacific R.R. purchased Nevada, California & Oregon Ry. and will spend $450,000 on improving line from Reno to Chilcoot, Cal. T. J. Wyche, Mills Bldg., San Francisco, ch. engr.

Ariz., Globe—Globe-Miami Electric Ry., recently incorporated, making surveys for interurban electric line from Globe to Miami, 11 mi. F. J. Dains, Kansas City, Mo., gen. mgr.

Wash, Cowiche—Northern Pacific Ry. plans branch line from Cowiche to Tieton, about 6½-mi. Cost, $224,271. H. E. Stevens, 5th and Jackson St., St. Paul, ch. engr.

Ore., Beaver Hill Junction—(Coquille P. O.)—Southern Pacific Ry. plans to extend line from Beaver Hill Junction to Bandon, via Beaver Slough and down Coquille River to coast. W. Hood, Flood Bldg., San Francisco, ch. engr.

Ore., Wilkesboro—(Banks P. O.)—Gales Creek & Wilson River Ry. plans line from Wilkesboro up Gales Creek toward Wilson River. J. Parsons, 127 East 20th St., Portland, pres.

Cal., Darwin—Darwin Development Co. plans electric railway along south shore of Owens Lake to connect with Southern Pacific Ry. at Olancha, 23 mi.

Cal., Eagle Rock—Glendale & Montrose Ry. applied for franchise to lay tracks across Colorado Blvd. to site of passenger station company plans to build. J. W. M. Burton, 1112 Broadway St., Glendale, gen. mgr. and pur. agt.

Cal., Long Beach—Pacific Electric Ry. granted permission by City Comn. to construct spur track from municipal dock line to plant of J. F. Craig Shipbuilding Co. J. McMillan, Pacific Electric Bldg., Los Angeles, gen. mgr.

Cal., Pasadena—H. Dobbins submitted plans for proposed municipal railway. About $2,500,000. R. B. Orbison, city engr.

Cal., Portersville—Atchison, Topeka & Santa Fe Ry. (Coast Lines) will build line from Portersville to Bakersfield, about 60 mi. G. W. Harris, Los Angeles, ch. engr.

Cal., Portersville—Southern Pacific Co. has had plans prepared for branch line of Portersville Northeastern R.R. near Adobe Station to serve granite quarries east of city. W. Hood, Flood Bldg., San Francisco, ch. engr.

N. B., Moncton—Moncton Tramways, Electric & Gas Co., Ltd., plans to extend system. Plans have been submitted to Council for additional tracks routes. E. B. Reeser, Farmers' Bank Bldg., Pittsburg, vice pres. and gen. mgr. A. B. Coxwell, Moncton, gen supt.

Ont., Swastika—Temiskaming & Northern Ontario Ry. made surveys branch line from Swastika to Kirkland Lake gold mining camp, about 6-mi. S. B. Clement, North Bay, ch. engr. and supt.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Pa., Oakville**—Cumberland Valley R.R. let contract grading and double-tracking line from Oakville to Shippensburg, 6 mi., to Mason & Hanger Co., 52 Vanderbilt Ave., New York.

★**Va., Hampton**—Hampton & Langley Field Ry. let contract grading line from Hampton to Langley aviation field to Gannaway-Hudgins Co., Hampton.

★**N. C., Charlotte**—Southern Ry. let contracts double-tracking line from Charlotte to Mt. Zion (Converse P. O.) as follows; from Blacksburg to Gaffney, S. C., 9.6-mi., and from Cowpens to Mt. Zion (Converse P. O.) S. C., 5.8-mi. to Brookes-Callaway Co., Healy Bldg., Atlanta; from Bessemer City, N. C., to Blacksburg, S. C., 18-mi. to C. W. Lane & Co., Healy Bldg., Atlanta; from Belmont to Bessemer City, 16.8-mi. to Crawford-Morrow Co., 182 Marietta St., Atlanta; from Charlotte to Belmont, N. C.; 10.9-mi., to R. Russel, Charlotte; from Gaffney to Cowpens, S. C., 10.4-mi., to Dunnavant & Gunter Co., Knoxville.

★**Ky., Ashland**—Ashland-Greenup Ry. let contract railway from Ashland to Russell, 5 mi., to Vaughan Constr. Co., Shawsville. Noted Apr. 12.

★**Ill., Litchfield**—Chicago, Burlington & Quincy R.R. plans 24-mi. second track from Litchfield to Virden. Work to be done by company's forces. About $375,000. A. W. Newton, 547 West Jackson Blvd., Chicago, ch. engr.

★**Mo., Kansas City**—Kansas City Rys. let contract 7 mi. track extension on various streets to Columbia Constr. Co., 1410 1st National Bank Bldg., Milwaukee, $342,900.

EXCAVATION AND DREDGING

Proposed Work

Ill., Evanston—Dragline Work—(Official)—T. Garland, 6932 Sheridan Rd., Chicago, desires to sublet in connection with sewer contract; advertised in this issue.

Minn., Mankato—Ditch—County plans Ditch No. 50. About $60,000. C. Kennedy, Mankato, Minn.

S. D., Clear Lake—Drainage—County rejected bids. New bids soon. About $36,000.

Tex., Robstown—Drainage—County soon lets contract drainage system in Robstown Dist., 80,-000 acres. About $158,000 available.

Cal., Visalia—Irrigation—C. H. Slaughter, Tulare, E. F. Hart, Farmersville, and others, reported interested in plan to organize irrigation district to conserve waters of Kaweah River, including dam to cost $8,000,000. B. Sturgeon, engr., San Francisco, preparing plans.

Bids Desired

Ill., Danville—(Official)—Drainage—Until Apr. 30 by Maple Grove D. D., Vermillion County, excavating all trenches for tile work and trenching work, laying, placing in earth, covering and back filling all tile pipes and catch basins.

Minn., Ivanhoe—Ditch—Until Apr. 30 by County for Judicial Ditch No. 30, 41,900 ft. open ditch and 228,821 cu.yd. excavation. K. A. Hansen, aud.

Minn., Red Lake—Falls Excavation—Until May 1 by County, 6775 cu.yd. excavation, 6497 cu.yd. borrow, 3760 cu.yd. side ditching and 5 metal culverts. G. Dupont, aud.

Excavation and Dredging (Continued)

Kan., **Scandia**—Drainage—Until May 3 by D.D. No. 1 for cleaning and straightening Mud Creek, enlarging main levee, 600-ft. long, enlarging and extending levee 1900-ft. long and willow and brush riprap, 400 x 660-ft. Address G. A. Nystrom.

Neb., **Schuyler**—(Official)—Drainage, etc.—Until May 1 by H. Fletcher, co. clk., for excavation of drainage ditch and road improvements, involving 95,200 cu.yd. excavation; 60,100 cu.yd. road improvement; 3000 cu.yd. cleanout old ditch. About $31,000.

Ore., **Vale**—Irrigation—See "Reinforced Concrete."

Prices and Contracts Awarded

(★Indicates award of contract)

★Fla., **Jacksonville**—Canal—Merrill-Stevens Co., 620 East Bay St., let contract cutting 1000-ft. canal 130-ft. wide, and 15-ft. deep, on south side of St. Johns River, opposite Commodore's Point, to be used in connection with extension of shipbuilding plant, to Seaboard Dredging Co., Durkee Bldg.

★Ia., **Algona**—Drainage—Emmet-Kossuth-Palo Alto Dist. No. 84 let contract tile to Olson Bros., Lone Rock, $143,954; open work to H. C. Whitney, 3618 Jackson Ave., Sioux City, at 8c. 6.8c. and 6c. per yd.

★Cal., **Anderson**—Excavation—Anderson-Cottonwood Irrigation Dist. let contract excavating and concrete work to Shattuck-Edinger Co., San Francisco, $200,000; excavating 10,000 cu.yd. below tunnel to H. E. Houston.

★Cal., **Calexico**—Canal—Black Butte Development Co. let contract main canal., involving 100,000 cu.yd. excavation, to L. Little, Calexico, $14,000.

INDUSTRIAL WORKS

Proposed Work

Mass., Malden—Eastern Smelting & Refining Co., Charlestown, purchased site of 14 acres and plans 150x400-ft. plant for refining of copper and tin. Plans include wharf on Mystic River and 2 spur tracks, each 1000 ft. long to be run in from western division of Boston & Maine R.R. About $100,000.

Mass., New Bedford—Passaic Cotton Co. plans 5-story, 133x499-ft. brick, mill with 2 wings, requiring about 900 tons structural steel.

Mass., New Bedford—Taunton New Bedford Copper Co. plans 1- and 2-story, 118 x 257-ft. and 134 x 261-ft. machine shop and rolling mill. About $125,000. C. W. Praray, engr., Times Bldg., prepared plans.

Mass., Waltham—J. L. Thomas Mfg. Co. plans 3-story, 50x100-ft. machine shop.

R. I., Providence—Esmond Mills plan 100x200-ft. addition to plant.

N. Y., College Point—(Flushing P. O.) Queensboro Drug Co. plans 6-story, 50 x 100-ft. factory. About $50,000. O. H. Finke, archt., 19 12th St., prepared plans.

N. Y., Rochester—Taylor & Shantz, 230 Mill St., is having plans prepared by Crandell & Strobel, archts., 401 E. & B. Bldg., for a 2-story, 79x128-ft. plant.

N. Y., Troy—Cluett, Peabody Co., 467 River St., plans 9-story factory. About $1,500,000. Westinghouse, Church & Kerr, archts. and engrs., 37 Wall St., New York, preparing plans.

N. J., Elizabeth—D. Kaufman & Sons plans 2 plants, one 3-story, 31x100 ft., and one 1-story, 53x90-ft.

N. J., Newark—Firestone Tire & Rubber Co., 84 Bank St., plans sales and office building at 1008-10 Broad St., about $75,000.

Pa., Hazleton—See "Reinforced Concrete."

—Pennsylvania Warehouse & Safe Deposit Co., 113 South 3rd St., plans, 8-story, 112 x 172-ft., brick and concrete warehouse, Delaware Ave. and Water St.

Pa., Pittsburgh—Manchester Auto and Machine Co. soon lets contract 1- and 3-story, 100 x 130-ft. addition to garage. About $50,000.

N. C., Rutherfordton—Rutherfordton Cotton Mills, recently incorporated with $125,000 capital stock, plans factory. W. W. Hicks, and M. O. Dickerson, interested.

O., **Akron**—See "Reinforced Concrete."

O., **Cleveland**—Bamberger, Reinthal Co., 2621 East 9th St., plans 4-story factory. About $100,000. Christian, Schwarzenberg & Gaede Co., archts., 1900 Euclid Ave., prepared plans.

O., **Cleveland**—Wald Realty Co. prepared plans for 115x164-ft. factory at 1763 East 22nd St. About $65,000.

O., **Sandusky**—H. Dauch Paper Co., 831 Water St., soon lets contract brick, concrete and steel factory. About $500,000. A. M. Allen & Co., archts., 1900 Euclid Ave., Cleveland, prepared plans.

O., **Toledo**—See "Reinforced Concrete."

O., **Youngstown**—Fisher-Glider Cartage & Storage Co., 24 E. Commerce St., plans 6-story warehouse.

Mich., Detroit—Parsons Mfg. Co., c/o Kniseley Bros., 2799 South 5th Ave., plans 4-story, 58 x 69-ft. ice cream factory and dairy plant. C. D. Cooley Co., archts., Century Bldg., Pittsburgh, soon receives bids.

Ill., **Chicago**—R. J. Ederer Co., 317 North Michigan St., purchased site at Orleans and Ohio St., and plans 4-story factory. Holabird & Roche, archts., 104 South Michigan St., preparing plans.

Wis., Manitowoc—Aluminum Castings Co. plans 200 x 300-ft. foundry, Calumet Rd. About $250,000.

Wis., Milwaukee—I. Barnett Woolen Mills, 484 Virginia St., plans 2 100 x 185-ft. factories, Muskegon Ave. and Park St.

Wis., Racine—Racine Auto Tire Co. will build 1st unit to proposed new plant to be 160x260 ft. L. Wright, Racine, Sattley Bldg., secy. and treas.

Ia., **Des Moines**—Iowa Packing Co. preparing plans for plant. About $1,000,000. F. T. Fuller, 3815 South Michigan Ave., Chicago, interested.

Minn., Albert Lea—Albert Lea Packing Co. plans addition to plant. About $125,000.

Minn., Duluth—Rodenbur Safety Step Co. plans factory. About $150,000. J. P. Rodenbur, pres.

Minn., Mankato—Fort Stanwix Canning Co., Rome, N. Y., plans branch plant. About $50,000 to $75,000.

Minn., St. Paul—Farmers Terminal Packing Co., 919 Commerce Bldg., prepared plans brick and rein.-con. plant on Mississippi River. About $400,000.

Minn., St. Paul—Minnesota By-Products and Coke Co., Hamline Ave., plans 10 factory buildings. About $89,000.

Neb., Omaha—Orr Motor Sales Co., 40th and Farnam St., plans garage and salesroom. About $60,000.

Mont., Opheim—Opheim Hardware & Implement Co. plans addition. About $75,000.

Mo., Kansas City—A. R. Meyer, plans 6-story, 80 x 142-ft. glove manufacturing plant to be leased to Boss Mfg. Co., 629 Broadway. About $130,000. J. C. Sunderland, archt., 406 Interstate Bldg., preparing plans.

Mo., Springfield—City will vote June 16 on $500,000 bonds to install electric-light plant. F. F. Moore, clk.

Okla., Pawnee—City defeated $150,000 bonds to build gas plant.

Wash., Mt. Vernon—Mt. Vernon Milling Co. plans 4-story, 90 x 150-ft., brick mill, North 1st and Warren St. P. E. Nelson, mgr.

Wash., Spokane—Whitehouse & Price, archts., Spokane, preparing plans for 5-story, 50 x 100-ft. warehouse for Gray Mfg. Co., Ide Ave. About $75,000 to $80,000.

Bids Desired

Pa., Scranton—Until about May 15 by E. Langley, archt., Scranton Life Insurance Bldg., for 1-story, 65 x 185-ft. machine shop for Sprague & Henwood, Coal Exchange Bldg. About $50,000.

Prices and Contracts Awarded

(★Indicates award of contract)

★N. H., **Manchester**—Consolidated Rendering Co., let contract 3-story, 52 x 70-ft., brick and rein.-con. rendering plant to J. P. Mendell Co., Manchester.

★Mass., **Boston**—Armour & Co., Union Stock Yards, Chicago, let contract 6-story, 100 x 100-ft., rein.-con. and brick warehouse, Berkley St., to Norcross Bros. Co., 10 East Worcester St., Worcester, $200,000.

★R. I., **Woonsocket**—Gold Mark Knitting Co., Railroad St. let contract 4-story, 60 x 110-ft. brick factory to Torrington Constr. Co., Torrington, Conn.

★Conn., **Bridgeport**—Singer Sewing Machine Co., 12 P. O. Arcade, let contract factory to Aberthaw Constr. Co., 27 School St., Boston, $150,000.

★Conn., **Waterbury**—Waterbury Rolling Mills, East Aurora St., let contract addition to Tracy Bros. Co., 52 Benedict St., $50,000.

★N. Y., **Buffalo**—Kittinger Furniture Co. let contract 2-story, 75x220-ft. factory to Hydro Constr. Co., 1010 Mutual Life Bldg.

★N. Y., **New York**—Standard Oil Co., 26 Broadway, let contract warehouse and garage to H. D. Best Co., 52 Vanderbilt Ave. About $68,000.

P. Weeks Estate Corp., 2345 Broadway, let contract 5-story garage to Wells Constr. Co., 237 5th Ave., $60,000.

★N. Y., **Phœnix**—Phœnix Ceramic Works, 50 Church St., New York, let contract factory to E. A. Turner, 34 East 28th St., $125,000.

N. J., **Passaic**—See "Reinforced Concrete."

★Pa., **Chester**—(Official)—McCausland Eng. Co., Penn. Bldg., Phila., let contract alterations and additions to factory, 5th and Penn St., to Chester Constr. & Contr. Co., Chester, $50,000.

★Pa., **Phila.**—Gill & So., Inc., East York and Thompson St., let contract factory, Tioga St., to W. R. Dougherty, 1608 Sansom St., $250,000.

★Pa., **Pittsburgh**—Iron City Products Co., 1924 Farmers Bank Bldg., let contract addition to D. T. Riffle, Keenan Bldg., $65,000.

★Pa., **Warren**—Jacobs Machine Mfg. Co. let contract machine shop to A. L. Shawn, 7 Cedar St., $100,000.

★Md., **Baltimore**—Severese Macaroni Co., 9th and Baltimore St., Highlandtown, let contract to G. Eyring, 800 South 3rd St., $50,000.

★Va., **Roanoke**—J. W. King, c/o Model Mills, Bristol, Tenn., let contract to J. F. Barbour & Son, Melrose Ave., $250,000.

★O., **Cleveland**—Ohio Forge Co., 2186 East 65th St., let contract plant to De Hamel Constr. Co., 504 Swetland Bldg., $100,000.

★Kan., **Clay Center**—Clay County Produce Co. let contract cold storage and packing plant to Eberhardt Constr. Co., Salina. About $70,000.

★N. D., **Minot**—See "Reinforced Concrete."

★Cal., **Los Angeles**—Los Angeles Union Terminal Co. let contract cold storage plant and warehouse, 1538 7th St., to Wurster Constr. Co., $200,000.

BUILDINGS

Proposed Work

Me., Gardiner—High School—City plans. About $80,000. H. S. Coombs, archt., 11 Lisbon St., Lewiston, prepared plans.

Mass., Clinton—School—St. Johns Church Society plans, 2-story. About $50,000. J. W. Donohue, 476 Main St., Springfield, archt.

Mass., Springfield—School—Bd. Educ. plans, 2½-story, 70 x 200-ft., brick. J. H. Bigelow, archt. 318 Main St., prepared plans.

N. Y., Brooklyn—Convent—Church of Transfiguration, Hooper and Marcy Ave., plans, 4-story, 50 x 100-ft. E. F. Lynch, archt., 345 5th Ave., New York, prepared plans.

N. Y., Ft. Edward—Church—St. Joseph's Congregation plans on Broadway. About $70,000. M. L. & H. G. Emery, Bible House, New York, archts., preparing plans.

N. Y., New York—Theater and Office—Jacob Wendell Estate, 175 Broadway, plans, 6-story, 100 x 258 x 137-ft., to be leased to Moredall Realty Co., Woolworth Bldg. T. W. Lamb, archt., 644 8th Ave., preparing plans.

—Hospital—St. Luke's Hospital, Amsterdam Ave. and 113th St., plans, 2-story, 76 x 200-ft. About $75,000. Columbia School of Architecture, Columbia University, archts.

N. Y., Rochester—Church—East Ave. Baptist Congregation plans. About $200,000. B. G. Goodhue, 2 West 47th St., New York, archt.

N. Y., Schenectady—Lodge—Knights of Columbus plan, 3-story. About $60,000. C. A. Sussdorff, 100 State St., Albany, archt.

—(Official)—Church—Until about May 1 by C. E. Chappell, chn. bldg. com. Methodist Episcopal Congregation, University Ave., new church on Genesee St. About $100,000.

N. J., Fortescue—Hotel—S. Reiter plans, 3½-story. G. King, archt., 1513 Walnut St., Phila., soon receives bids.

N. J., Freehold—High School—Bd. Educ. plans. About $75,000. A. L. Moreau, 58 West Main St., pres. W. H. Conover, archt., 114 Liberty St., New York, prepared plans.

N. J., New Brunswick—High School—Bd. Educ. plans, 3-story. About $250,000. H. G. Parker, 261 Redmond St., pres. A. Merchant, archt., 363 George St., prepared plans.

N. J., Paterson—School—Until about May 15 by Bd. Educ. for 3-story, 136 x 200-ft., brick, on Broadway. About $275,000. H. B. Crosby, 1st Natl. Bank Bldg., archt.

N. J., Trenton—Temple—Masonic Fraternities of Trenton plan on West Front St. About $140,000. S. E. Kaufmar, 123 South Broad St., chn. bldg. comn.

N. J., Trenton—(Official)—Dormitory—State Bd. Educ. rejected bids Apr. 7, dormitory at School for Deaf. New bids.

Pa., Annville—School—Bd. Educ. Annville School Dist. defeated $75,000 bonds to build high school.

Pa., Charleroi—City Hall—City rejected bids. Lowest bid submitted by G. Blair, McKeesport, $72,000. W. S. Woodward, mayor.

Pa., Connellsville—Church—First Methodist Episcopal Congregation plans, 2-story. About $75,000. C. W. Bier, archt., 219 6th St., Pittsburgh, prepared plans.

Pa., Hanover—Y. M. C. A. plans building. About $50,000. A. R. Nissit, Peoples Bank Bldg., chn. com. C. M. Anderson, 324 North Charles St., Baltimore, archt.

Pa., Johnstown—Church and Parsonage—United Evangelical Congregational plans, 2-story, 100 x 103-ft. About $50,000. J. E. Adams and J. E. Lucas, archts., Lincoln Bldg., preparing plans.

Buildings (Continued)

Pa., Kulpmont—School—City voted $63,000 bonds to build school.

Pa., Locust Gap—School—Bd. Educ. Carmal Twp. plans, 2-story, 50 x 60-ft. About $80,000. C. S. Adams, 1509 Arch St., Phila., archt.

Pa., Phila.—Church—Hope German Presbyterian Congregation, 52nd St. and Haverford Ave., plans, 1-story, 50 x 210 ft., stone. C. Neff, archt., Heed Blk., preparing plans.

Pa., Phila.—Office—Fidelity Trust Co., 331 Chestnut St. plans, Broad and Walnut St. About $6,000,000.

Pa., Phila.—Home—Sunshine Home, 2609 North 6th St., plans 4th St. and Lehigh Ave. About $50,000.

Pa., Sharon—Church—First Presbyterian Congregation plans. About $100,000. C. E. Owsley, archt., Mahoning Bank Bldg., Youngstown, preparing plans.

Pa., Swissvale—School—Bd. Educ. plans, 3-story, 130 x 190-ft., brick, steel and rein.-con. About $200,000. C. H. Lloyd, Telegraph Bldg., Harrisburg, archt.

Md., Baltimore—School—Synagogue and Rabbi's Residence—Talmud Torah Vhoamunch, c/o S. Sigael, 215 Courtland St., plans. About $150,000. T. M. Pietsch, 1210 American Bldg., archt.

Wash., D. C.—Theater—Anchor Co., c/o Marcus Loew, 1493 Broadway, New York, and Shannon & Lauchs, 713 14th St., N. West Wash., plans 105 x 148-ft. About $400,000. T. W. Lamb, archt., 644 8th Ave., New York, prepared plans.

Wash., D. C.—Theater, Store and Office—H. Crandall, c/o Crandall Moving Picture Theater, 9th and E. Sts., N. W., plans, 6-story, 120 x 170 x 90-ft. About $150,000. R. W. Geare, archt., Woodward Bldg., preparing plans.

Va., Norfolk—Hotel—Nansemond Hotel plans, 4-story. About $150,000. R. E. Mitchell, archt., Paul Gale-Greenwood Bldg., preparing plans.

N. C., Asheville—High School—City election June 9 to vote on $150,000 bonds to build high school and extend and remodel other schools.

Ga., Atlanta—Bank—Federal Reserve Bank soon receives bids, 91½ x 200-ft., marble or granite About $150,000 to $200,000. A. Ten Eyck Brown, Realty Trust Bldg., archt.

Fla., Lake Alfred—Hotel—Lake Alfred Hotel plans, 3-story, frame. About $65,000. Bonfoey & Elliott, archts., Petteway Bldg., Tampa, prepared plans. Bids will soon be received.

Fla., Orlando—See "Miscellaneous."

Ala., Troy—High School—City sold $50,000 recently voted to build high school.

O., Akron—Store—H. S. Rivits & Co., 2112 Ontario St., Cleveland, soon lets contract 2-story. About $50,000. Christian, Schwartzenberg & Gaede, 1900 Euclid Ave., Cleveland, archts.

O., Ashland—Hotel—Until about May 15 by V. Redding, archt., Bird Bldg., Mansfield, for addition to Otter Hotel. About $50,000. W. D. Otter, Main St., prop.

O., Barberton—School—Bd. Educ. plans, 236 x 425-ft. About $60,000. Harpster & Bliss, archts., Nantucket Bldg., Akron, prepared plans.

O., Celina—Parochial School—Immaculate Conception Congregation plans, 2-story, 67 x 135-ft. About $60,000. A. De Curtins, 502 Opera House Blk., Lima, archt. prepared plans.

O., Martins Ferry—School—City election May 1 to vote on $150,000 bond issue to build school.

O., Struthers—Church—St. Nicholas Congregation plans, 1-story, 54 x 110-ft. About $60,000. C. J. Ott, archt., Knights of Columbus Bldg., Youngstown, soon receives bids.

O., Toledo—Theater and Store—E. Biolorucki and W. L. Grudzinxki, 2700 Cherry St., soon receive bids, 2-story, 20 x 120-ft,. brick, Lagrange St. About $60,000. C. W. Beelman, 812 2nd Natl. Bank Bldg., archt.

Ind., Evansville—College—A. F. Hughes, pres. Moores Hill College, interested in campaign to raise $500,000 to build college.

Ind., New Albany—Temple—Masonic Temple Assn. plans, 4-story, 75 x 110-ft. About $75,000. C. C. Martindale, archt., 1200 Fletcher Trust Bldg., Indianapolis, soon receives bids.

Mich., Battle Creek—Schools—Bd. Educ. plans, (2) 3-story, 64 x 120-ft., brick. About $125,000. J. D. Chubb, 109 North Dearborn St., Chicago, archt., prepared plans.

Mich., Bellevue—School—City defeated $75,000 bonds to build high school.

Mich., Benton Harbor—Hotel—Hotel Benton plans 5-story, 100 x 150-ft. addition. About $100,000. A. H. Elwood & Son, archts., Haynes Bldg., Elkhart, preparing plans.

Mich., Grand Rapids—School—Bd. Educ. asked city for appropriation of $170,000 to build additional schools.

Mich., Hancock—Church—Congregational Church plans, 1-story. About $50,000. Maass Bros., archts., Houghton, prepared plans.

Mich., Menominee—School—Bd. Educ. plans, 3-story, 130 x 173-ft., brick. About $125,000. D. Hubert, archt., preparing plans.

Mich., Monroe—Theater and Office—J. E. Denniston Co. plans, 2-story, 45 x 150-ft. About $55,000. C. H. Crane, archt., 2323 Dime Bank Bldg., Detroit, soon receives bids.

Mich., Muskegon—Bank and Office—Union National Bank, 65 West Western Ave., plans, 8-story, 66 x 132-ft. About $200,000 O. Wenderoth, archt., 1907 South Michigan Ave., Chicago, prepared plans.

Ill., Chicago—Dormitory—Bethany Bible Co., 3425 West Van Buren St., plans, 4-story, 40 x 75-ft. About $75,000. M. Dunning, archt., 35 South Dearborn St., prepared plans.

Ill., Chicago—School—Bd. Educ., 7 South Dearborn St., plans addition to Spry School. About $175,000. A. F. Hussander, archt., 7 South Dearborn St., prepared plans.

—Hotel—M. L. Blatt, c/o E. B. Woolfe & Co., 79 Monroe St., plans, 10-story, 148 x 164-ft. About $100,000. H. R. Wilson & Co., archts., 11 South La Salle St., soon receives bids.

—Theater, Store and Office—Estate of C. Kohl plans, 163 x 180-ft. About $1,000,000. M. Beck, 22 West Monroe St., interested. C. W. & G. L. Rapp. archts, 69 West Washington St., prepared plans.

—Hotel—M. Kasper plans, 7-story. About $200,000. J. B. Dibelka, archt., 130 North 5th Ave., prepared plans.

—Hotel—H. L. Newhouse, 4630 Prairie Ave., plans, 8-story.

Ill., Decatur—School—Bd. Educ. plans Lincoln Grade School, 2-story, 72 x 120-ft. About $60,000. Brooks & Bramhall, Title and Trust Bldg., archts., prepared plans.

Ill., Mammouth—Y. M. C. A. plans new building. About $75,000.

Ill., Warsaw—Church—Presbyterian Congregation plans. About $50,000. N. K. Aldrich, 86 Cherry St., Galesburg, archt.

Wis., Kenosha—School—Bd. Educ. retained H. H. Hahn, archt., Market St., to prepare plans, 2-story, brick, rein.-con. and steel. About $100,000.

Wis., Madison—City Hall—City plans. About $150,000. A. H. Kayser, mayor.

Wis., Manitowoc—School—City plans election to vote on $200,000 bonds to build high school.

Wis., Racine—School—Harvey School Dist No. 21 plans on Rapids Rd. About $50,000.

Wis., Waukesha—Schools—Bd. Educ. has had plans prepared for high school, Park school and Union school.

Ia., Bronson—School—City election May 8 to vote on $50,000 bonds to build school.

Ia., College Springs—Schools—City voted $65,000 bonds to build schools.

Ia., Dubuque—High School—Bd. Educ. plans, 2-story. About $500,000. J. W. Royer, Urbana, archt.

Ia., Estherville—Bank—1st National Bank plans, 1-story, 44 x 80-ft. About $75,000. Lytle Co., archts., 101 Masonic Bldg., Sioux City, preparing plans.

Ia., Newton—Junior High and Grade School—Bd. Educ plans, 2-story. About $115,000. H. R. Alfree, pres. Temple & Burrows, archts., 63 Davenport Savings Bank Bldg., Davenport, and Fugard & Knapp, assoc. archts., 111 Monroe St., Chicago, prepared plans.

Ia., Oseola—High School—Bd. Educ. plans. About $100,000.

Ia., Sioux City—High School—Bd. Educ. plans, 2-story, 104 x 132-ft. About $85,000. Beuttler & Arnold, archts., 609-10 Security Bldg., preparing plans.

Minn., Austin—Theater—F. F. Latta plans. About $50,000 to $60,000.

Minn., Duluth—Office—Marine Mfg. Co. plans. About $50,000.

Minn., Mineapolis—Hotel—Ogden Hotel rejected bids, 7-story, 44 x 100-ft. addition. Project suspended indefinitely. Dorr & Dorr, Lumber Exchange Bldg., archts.

Minn., Minneapolis—Academy—Sisters of St. Joseph plan Holy Angels' Academy, 3-story, 60 x 130-ft. About $100,000. J. H. Wheeler, archt., 508 New York Life Bldg., prepared plans.

Minn., Minneapolis—Auditorium—State Legislature passed bill authorizing City Council to issue $800,000 bonds for municipal auditorium. W. G. Nye, mayor.

Minn., Northfield—Gymnasium—Trustees St. Olaf College plan. About $75,000. E. Mohn, archt., 2012 Laurel Ave., St. Paul, prepared plans.

Minn., Ogilvie—School—City plans, brick and stone. About $50,000. A. H. Foss, archt., Elbow Lake, preparing plans.

Minn., Owatonna—High School—Bd. Educ., plans, 4-story in Dist. 1, about $150,000. O. H. Round & N. Jacobson, archts., 200 Oppenheim Bldg., St. Louis, prepared plans.

Minn., Rochester—Hotel—Until about May 1 by W. H. Conley, archt., 6-story, 54 x 140-ft. for Franklin Hotel Co., Inc. About $150,000.

Minn., St. Paul—Store and Office—Capital City Lumber Co., 511 East 7th St., plans, brick on Selby St. About $50,000.

Minn., St. Paul—(Official)—Church—St. Mark's Congregation lets contract in about 6 months, Dayton and Moore Ave. Cost, $100,000. C. H. Chicago, archts.

Minn., White Bear Lake—City voted $50,000 bonds to build schools.

Kan., Abilene—High School—Bd. Educ. plans, 3-story, brick, stone and concrete. About $80,000. W. H. Sayler, 606 Gumbel Bldg., Kansas City, Mo., archt.

Kan., Ellsworth—School—Bd. Educ. rejected bids, 2-story, 101 x 133-ft. About $50,000. H. B. Winter, Union National Bank Bldg., Manhattan, archt.

Kan., Eureka—School—City voted $50,000 bonds to build school.

Kan., Hutchison—School—City plans election to vote on $128,000 bonds to build school.

Kan., McPherson—School—Bd. Educ. plans, 3-story, 72 x 130-ft. About $50,000. Markgraf & Mampe, archts., 413 Ridge Bldg., Kansas City, Mo., prepared plans.

Kan., Parsons—City Hall and Auditorium—City voted $150,000 bonds to build city hall and auditorium.

Neb., Ashland—School—Bd. Educ. plans, 2-story, brick and stone. About $65,000. Berninghoff & Davis, 416 Security Mutual Life Bldg., Lincoln, archt.

Neb., Grand Island—Hotel—North America Hotel Co. plans, 11-story, 88 x 88-ft., brick and terra cotta. About $250,000. Bankers Realty Investment Co., Bee Bldg., Omaha, archt.

Neb., Hastings—School—Bd. Educ. plans, 1-story. About $75,000. R. A. Bradley & Co., archts., prepared plans.

Neb., Kearney—Hotel—North America Hotel Co. plans, 6-story, 75 x 90-ft. rein.-con. and terra cotta. About $150,000. Bankers Realty Investment Co., Bee Bldg., Omaha, archt.

S. D., Aberdeen—Dormitory—Northern Normal School, plans. About $125,000. H. F. Ellerbe, Endicott Bldg., St. Paul, Minn., archt.

S. D., Redfield—School—Bd. Educ. plans, 2-story. About $85,000. Z. A. Crane, pres. W. B Ittner, archt., 911 Locust St., St. Louis, prepared plans.

S. D., Wessington—Court House—Co. Comrs. plan election to vote on $90,000 bonds to build court house. F. E. Pool, aud.

N. D., Drake—Schools—Bd. Educ. having plans prepared by W. D. Gillespie, archt., 64½ Broadway, Fargo, for 2 schools, brick and concrete. About $50,000.

N. D., Larimore—(Official)—School—Bd. Educ. School Dist. No. 44, rejected bids opened Mar. 29. W. J. Edwards, archt.

N. D., Minot—Hotel—J. W. Schofield and associates rejected bids, 7-story, 110 x 180-ft. About $250,000. M. Tullgren, Manhattan Bldg., Milwaukee, archt.

Wyo., Casper—Jail—City election May 7 to vote on $55,000 bonds to build jail.

Mont., Bozeman—School—City voted $90,000 bonds to build schools. Noted Apr. 5.

Mo., Fulton—Chapel, etc.—Westminster College plans chapel to cost $55,000, and gymnasium, $65,000. Holmes & Flinn, 8 South Dearborn St., Chicago, archts.

Mo., St. Louis—Theater and Store— F. Demko, 2227 South Bway., plans, 2-story, 74 x 120-ft. About $50,000. Kennerly & Stiegemeyer, archts., 505 Bendist Bldg. soon receives bids.

—Until about May 15 by W. Wedemeyer, archt., 824 Wainwright Bldg., 4-story, 100 x 160-ft. building for Y. M. C. A., North Side Branch. About $200,000. L. Boeger, 3500 North Grand Ave., pres.

Mo., University—(St. Louis P. O.)—Church—Delmar Ave. Baptist Congregation plans, 1-story. About $50,000. A. B. Groves, archt., Stock Exchange Bldg., St. Louis, soon receives bids.

Tex., Dallas—School—City voted $500,000 bonds to build school.

Tex., Denton—Church—First Baptist Congregation plans. About $75,000.

Okla., Enid—High School—Bd. Educ. plans election to vote on $50,000 bonds to build addition to high school.

Okla., Guymon—High School—Bd. Educ. Guymon School Dist. voted $57,000 bonds to build high school.

Okla., Norman—Hospital—Bd. Pub. Affairs plans. About $85,000. A. N. Leecraft, Oklahoma, secy.

—School—City election May 2 to vote on $300,000 bonds to build schools.

Okla., Stillwater—Science Hall Armory and Gymnasium—State Bd. Agriculture plans at state college. About $200,000. F. C. Biggin, c/o college, archt.

Buildings (Continued)

Okla., Tulsa—Office—J. Mayo plans, 5-story, 100 x 140-ft. brick, stone and concrete addition. About $300,000. D. Eichenfeld, 420 First Natl. Bank Bldg., archt.

Okla., Tulsa—Hospital—Sisters of Sorrowful Mother, c/o Mother Superior Mary Cornelia Wichita, Kan., plans addition, 4- or 6-story. About $500,000. Wight & Wight, 401 1st Natl. Bank Bldg., Kansas City, Mo., archts.

Colo., Pueblo—High School—School Dist. No. 2 plans election in May to vote on $50,000 bonds to build central high school.

Colo, Trinidad—School—Local School Dist. No. 1 plans election to vote on $100,000 bonds to build school. F. Jones, secy.

Idaho, Richfield—School—City retained Fayland & Fennell, archts., Idaho Bldg., Boise, to prepare plans school.

Ariz., Phœnix—Church—Christian Congregation plans. About $55,000.

Wash., Centralia—School—School Bd. plans new building to replace Edison School. About $50,000.

Wash., Seattle—Bd. Regents University of Washington plans new building for department of philosophy. Cost, $180,000. Bebb & Gould, Denny Bldg., archts.

Wash., Spokane—Lodge—B. P. O. E. retained Houghtaling & Dougan, archts., Henry Bldg., Portland, to prepare plans, 4-story, 75x110-ft. brick and terra cotta. About $155,000 or $200,000. Will receive bids in May.

Cal., Clovis—High School—City defeated $60,000 bonds to build high school.

Cal., Coalinga — School — Coalinga Union School Dist. will vote May 5 on $100,000 bonds to build school.

Bids Desired

N. Y., Jamestown—(Official)—Bank—Until May 2 by W. J. Maddox, chn. bldg. com., Bank of Jamestown, 6-story, 20 x 120-ft. granite or limestone. Noted Apr. 12.

N. Y., Rochester—(Official)—Until May 1 by E. S. Elwood, secy., State Hospital Comn., Capitol, Albany, for addition to Livingston Bldg., Rochester State Hospital; advertised in this issue.

N. J., Asbury Park—Natatorium—Until May 14 by Bd. Comrs., natatorium on beach front. About $125,000. E. A. Arend, archt., Kinmouth Bldg., prepared plans.

Fla., Miami—Hotel—Until May 1 by C. J. Martin, 50 x 140-ft. concrete and tile, 12th and G St. About $300,000. G. L. Pfeiffer, Miami, archt.

Tenn., Ducktown—School—Until May 3 by R. L. Kirkpatrick, chn. bldg. com., 2-story, 60 x 90-ft. W. H. Sears, James Bldg., Chattanooga, archt.

O., Columbus—Hospital—Until May 16 by County for tuberculosis hospital. W. H. Tremaine, 602 Chamber of Commerce Bldg., archt.

O., Galion—High School—Until May 11 by Bd. Educ., 2-story. About $120,000. Howard & Merriam, 8 East Broad St., Columbus, archts. Noted Apr. 12.

Ill., Urbana—University—(Official)—Until May 30 by J. M. White, Engineering Bldg., superv. archt., 2 bldgs. at University of Illinois; advertised in this issue.

Ont., Hamilton—Office—Until May 1 by Canadian Westinghouse Co. About $200,000. Prack & Perrine, Lumsden Bldg., Toronto, archts.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Me., Rumford**—High School—Town let contract 2-story addition to F. F. Howard, $60,000.

★**N. H., Brentwood**—Administration and Home—Rockingham Co. Farm let contract, brick, to C. E. Currier Co., 10 High St., Boston, $53,267.

★**Mass., Boston**—Hotel—Myles Standish Realty Co., c/o W. J. McDonald, 95 Milk St., let contract to Evatt Constr. Co., 161 Devonshire St., Boston, $4,500,000.

★**Mass., Springfield**—Bank—Chapin Natl. Bank let contract, brick and concrete, to F. T. Ley Co., 199 Main St. About $125,000.

★**Mass., Taunton**—High School—Town let contract addition to C. S. Cunningham & Sons Constr. Co., 7 Water St., Boston, $220,000.

★**N. Y., Brooklyn**—Station—New York Municipal Ry. Corp., 85 Clinton St., let contract to W. Flanigan, 118 East 28th St. About $59,-999.

★**N. Y., Cortland**—Bank and Office—Cortland Savings Bank let contract, 4-story, to G. B. Wills, 101 Park Ave., New York City. Noted Apr. 12.

★**N. Y., Lake Placid**—Hotel—Adirondack Resort Corp., c/o G. F. Scott, 25 Broad St., New York, let contract, to be leased to J. McBowman, Hotel Biltmore, Madison Ave. and 43rd St., to Wells Bros., 33 West 42nd St., New York, $500,000.

★**Pa., Chester**—City Hall and Police Station—City let contract to J. H. Wells, Heed Blk., $69,163.

★**Pa., Swarthmore**—Dormitory—Mary Lyons School let contract, 3-story, to Flounders Bros., Media, $75,000.

★**Pa., Turtle Creek**—High School—Bd. Educ. let contract, 2-story, to Dawson Constr. Co., May Bldg., Pittsburgh, $171,900.

Pa., Upper Darby—High School—Bd. Educ. received low bid, 2-story, 110 x 200-ft., from Standard Constr. Co., Drexel Bldg., Phila., $149,-568.

W. Va., Wheeling—Dormitory—State Bd. Control received low bid, West Liberty State Normal School, from Prescott Constr. Co., Parkersburg, $61,645.

★**W. Va., Wheeling**—Theater, Store and Office—T. Kopenes, 14th and Market St., let contract, 2-story, 64 x 130-ft. to A. B. Imhoff, $65,000.

★**Ga., Macon**—(Official)—Home—Masons of Georgia let contract to W. J. Beland, Macon. About $50,000.

★—**Temple**—Masonic Lodge let contract to Carmichael Constr. Co., 524 Hamilton Bldg., $366,000.

★—Commercial—Glengariff Realty Co., let contract, 67 x 200-ft. at 46th and Euclid St., to Masters & Mullen Constr. Co., 601 Electric Bldg. About $100,000.

★**O., Lima**—High School—Bd. Educ. let contract, 3-story, to F. E. Wood, $400,000.

★**O., Wooster**—School—Bd. Educ. let contract, 2-story, 60 x 90-ft., to Long & Bogner, Wooster, $60,000.

★**Ind., Bourbon**—(Official)—School—Bd. Educ. let contract to S. Parcel, Rochester, $50,000.

★**Wis., Oshkosh**—School—Bd. Educ. let contract addition to Punhoqua School to Ganther & Kroyer, Oshkosh, $41,995.

★**Neb., York**—Hotel—York Hotel Co. let contract 6-story, 90 x 120-ft. to R. Butke, 520 Paxton Blk., Omaha, $118,000.

★**Mont., Butte**—School—School Bd. let contract Lake Avoca School and new school south of Emerson Bldg. to H. Johnson, Butte, $74,000.

★**Mont., Malta**—Business Block—Varney & Wilson let contract to C. H. Johnson, Great Falls, $50,000.

★**Mo., Bowling Green**—(Official)—Court House—City let contract to McCarthy Constr. Co., Navarre Bldg., St. Louis, $88,290.

★**Tex., Lubbock**—Hospital—Ponton Sanitarium Co. let contract to Bramblett & Webster, Lubbock, $65,000.

★—Office—J. S. Cosden, Daniel Bldg. let contract, 15-story, terra cotta and rein.-con to Fuller Constr. Co., 418 Dwight Bldg., Kansas City, Mo., $175,000.

FEDERAL GOVERNMENT WORK

Proposed Work

Crane Track Extension, Etc.—N. H., Portsmouth—Bureau Yards and Docks (F. A. Harris, ch.), Navy Dept., Wash., appropriated $11,000 for crane-track extensions, $18,000 extending distributing system and $105,000 to improve power plant at Navy Yard.

Drainage, Etc.—Mass., Boston—Bureau Yards and Docks (F. R. Harris, ch., Wash.), appropriated $17,500 for drainage improvements and filling arrangements at Dry Dock No. 2; $20,000 for locomotive and train shed; $150,000 to improve central power plant; $60,000 to extend chain shop at Navy Yard.

Depot—R. I., Melville—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., appropriated $140,000 for depot for coal and other fuel.

Mine and Projectile House, Etc.—N. Y., Iona Island—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., appropriated $50,000 for mine and projectile house and water-front improvements at Naval Magazine.

Power Plant Etc.—N. Y., New York—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., appropriated $160,000 to improve power plant; $500,000 for storage facilities, and $400,-000 to extend machine shop at Navy Yard.

Shell Houses, Etc.—N. J., Lake Denmark—(Wharton P. O.)—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., plans 2 shell houses and magazine at Naval Magazine. About $100,000.

Barracks, Etc.—Pa., Phila.—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., appropriated $200,000 for additional barracks and $80,000 for advance base storage at Marine Barracks.

—**Power Plant, Etc.**—Bureau Yards and Docks, Navy Dept., (F. R. Harris, ch.), Wash., appropriated $120,000 to improve central power plant and $100,000 for a 50-ton locomotive crane at Navy Yard.

Power Plant—Md., Annapolis—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., appropriated about $2,270,000 to extend Bancroft Hall and $300,000 to improve power plant at Naval Academy.

Magazine, Etc.—Washington, D. C.—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., plans magazine, shell houses and other buildings at St. Juliens Creek, Va. About $117,000.

Sight Shop, Etc.—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., appropriated $40,000 to extend sight shop and $772,000 to improve central power plant and distributing system at Navy Yard.

Buildings—S. C., Charleston—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., plans 2 buildings for ammunition storage, $70,000, also building for torpedo storage, $50,000, at Naval Magazine.

Superstructure, Etc.—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., appropriated $500,000 for superstructure for pier No. 314, $130,000 to improve power plant and $50,000 for storage facilities at Navy Yard.

Power Plant, Etc.—Fla., Pensacola—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., appropriated $50,000 to improve power plant, $40,000 for water system and $125,000 for 2 magazines and 1 building for torpedo storage at Naval Aeronautical Station.

Extension of Wharf—La., New Orleans—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., appropriated $30,000, at Naval Station.

Water System Etc.—Wash., Bremerton—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., plans extending water system and erecting several small buildings at Naval Magazine, Puget Sound.

Depot—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., appropriated $300,000 for depot for coal and other fuel.

Power Plant, Etc.—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., appropriated $150,000 to improve power plant and $500,000 for storage facilities at Navy Yard, Puget Sound.

Depot—Cal., San Diego—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., appropriated $150,000 for depot for coal and other fuel.

Marine Corps Base—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., appropriated $600,000 toward establishment, at Marine Barracks.

Power Plant, Etc.—Cal., Vallejo—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., appropriated $105,000 to improve power plant and $50,000 for maintenance of dykes and dredging at Navy Yard, Mare Island.

Depots—Hawaii, Pearl Harbor—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., appropriated $200,000 for depot for coal and other fuel.

Dry Dock, Etc.—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., appropriated $936,500 for completion of dry dock and $100,000 for storehouse at Naval Station.

Marine Barracks and Laundry—China, Peking—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., plans at American Legation. About $62,000.

Bids Desired

Coast Guard Station—N. H., Portsmouth—Until May 9 by Navy Dept., Wash., at Station No. 1, Quoddy Head, Me.; advertised in this issue.

Post Office—Mass., Southbridge—Until May 29 by J. A. Wetmore, superv. archt., Treasury Dept., Wash.; advertised in this issue.

Wharf Extension—N. Y., Ft. Michie (New London, Conn., P. O.)—Until May 30 by Constructing Quartermaster, at Ft. H. G. Wright, N. Y.; advertised in this issue.

Dredging—N. Y., New York—Until Apr. 28 by U. S. Engr. Office, Room 802 Army Bldg., 39 Whitehall St.; Shrewsbury River, Shoal Harbor and Compton Creek, Keyport Harbor, Raritan River and South River, N. J.; advertised in this issue.

Dredging—Until May 8 by U. S. Engr. Office, Room 802, Army Bldg., 39 Whitehall St., dredging and removal of rocks and boulders in Staten Island Sound, New York and New Jersey.

Post Office—Pa., Berwick—Until May 29 by J. A. Wetmore, superv. archt., Treasury Dept., Wash.; advertised in this issue.

Post Office—Pa., Indiana—Until May 24 by J. A. Wetmore, superv. archt., Treasury Dept., Wash.

Pumping Plant—Pa., Phila.—Until May 14 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept. Wash., for use at dry docks at Phila. and Norfolk Navy Yards. Noted Apr. 12.

Dredging—Del., Wilmington—Until May 21 by U. S. Engr. Office, Wilmington, Maurice and Salem Rivers; advertised in this issue.

Dredging—Md., Baltimore—Until May 4 b U. S. Engr. Office, Baltimore, dredging Elk River advertised in this issue.

Federal Government Work (Continued)

Dredging—Until May 14 by U. S. Engr. Office, Baltimore, dredging in Claiborne Harbor and Tyaskin Creek; advertised in this issue.

Dredging—Until May 14 by U. S. Engr. Office, Baltimore, dredging Broad Creek River, Del.; advertised in this issue.

Sulphur Storehouse and Elevator House—Md., Indian Head—Until May 7 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., at Naval Proving Ground.

Bridge—Until May 7 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., foot bridge having channel span of bascule type and 2 trestle approaches across Mattawoman Creek at Naval Proving Ground.

Water Meters—Wash., D. C.—Until May 3 by Dist. Comrs., Room 509, Dist. Bldg., furnishing and delivering 3000 or more water meters. O. P. Newman, comr.

Grading—Until May 1 by Dist. Comrs., Room 509, Dist. Bldg., about 26,400 cu.yd. grading; advertised in Apr. 19 issue.

Sewers—Until May 19 by Dist. Comrs., Room 509, Dist. Bldg.; advertised in this issue.

Wharf—Va., Cape Henry—Until May 7 by U. S. Engr. Office, Norfolk; advertised in this issue.

Pumping Plant—Va., Norfolk—See "Pa., Phila."

Building—Fla., Key West—Until May 14 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., quarters for chief petty officer, distant control Naval Radio Station.

Hangars and Erecting Shop—Fla., Pensacola—Until May 7 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash.; at Naval Aeronautical Station. Noted Apr. 12.

Post Office and Courthouse—Ala., Jasper—Until May 28 by J. A. Wetmore, superv. archt., Treasury Dept., Wash.; advertised in this issue.

Coal—Ala., Montgomery—Until May 23 by U. S. Engr. Office, Montgomery; advertised in this issue.

Storage Shed—La., New Orleans—Until May 14 by Bureau Yards and Docks (F. R. Harris, ch.) Navy Dept., Wash., at Naval Station.

Shore Connection—O., Cleveland—Until May 21 by U. S. Engr. Office, Cleveland, at East Pier, Lorain Harbor; advertised in this issue.

Post Office—O., Washington, C. H.—Until May 25 by J. A. Wetmore, superv. archt., Treasury Dept., Wash.

Sewage Disposal Plant—Ind., Ft. Benjamin Harrison—Until May 12, by Department Quartermaster, Federal Bldg., Chicago, addition; advertised in this issue.

Steel—Mich., Saulte Ste. Marie—Until May 17 by U. S. Engr. Office, Detroit, furnishing and delivering about 38 tons steel and iron for pier construction, 4th Lock; advertised in this issue.

Dredging—Minn., Duluth—Until May 7 by U. S. Engr. Office, Duluth, Duluth-Superior Harbor, Minn. and Wis.; advertised in this issue.

Dikes—Mo., Kansas City—Until May 21 by U. S. Engr. Office, Kansas City, on Missouri River; advertised in this issue.

Canals—N. M., Garfield—Until May 23 by U. S. Rec. Ser., El Paso, Tex., canal on Rio Grande Project; advertised in this issue.

Heating, Etc.—N. M., Santa Fe—Until May 18 by J. A. Wetmore, superv. archt., Treasury Dept., Wash., heating, plumbing, conduit and wiring, lighting fixtures, etc., in courthouse.

Bridge—Ariz., Nogales—Until May 10 by J. A. Wetmore, superv. archt., Treasury Dept., Wash., bridge on customs reservation.

Buildings—Cal., San Pedro—Until May 9 at office of Constructing Quartermaster, 12th and Pacific Ave., officers' quarters, barracks and other buildings at Ft. MacArthur.

Mess Hall—Cal., Vallejo—Until May 21 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., 3-story extension at Mare Island.

Shell House and Laboratory—Until May 14 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., at Naval Ammunition Depot, Mare Island.

Prices and Contracts Awarded

(★Indicates award of contract)

Dredging—Mass., Boston—U. S. Engr. Office received low bids, Apr. 18, about 800,000 cu.yd. dredging in Weymouth Fore River, from Boston Dredging Co., 40 Central St., Boston; $0.299 cu.yd.; Bay State Dredging & Constr. Co., 247 Atlantic Ave., $0.305; Coastwise Dredging Co., 17 State St., New York, $0.324.

Post Office—N. J., East Orange—J. A. Wetmore, superv. archt., Treasury Dept., Wash., received low bids Apr. 18. (a) limestone, (b) sandstone, from W. H. Fissell, 1133 Broadway, New York. (a) $140,700, (b) $141,700; De Riso Bros., Inc., Weehawken, N. J., (a) $154,230.

Approaches—Wash., D. C.—W. W. Harts, Col. U. S. A., Executive Office, Comn. on Memorial to Women of Civil War, 1729 New York Ave., received low bids, Apr. 16, approaches to Memorial to Women of Civil War, from Conners Bros. Co., 64 West 84th St., New York, $54,950, Boyle-Robertson Constr. Co., Wash., $60,826, A. L. Smith Co., Wash., $97,143. Noted Apr. 5.

★**Paving**—Dist. Comrs. let contract grading and paving alleys to Washington Asphalt Block & Tile Co., 1419 G St., N. W., grading, 95c. per cu.yd.; paving on 4-in. base, $1.15 per sq.yd.; vitrified block on 4-in. base, $1.25 per sq.yd. Noted Apr. 19.

Structural Steel—E. Woods, supt. bldgs. and grounds, received low bids, Apr. 14, for use in reconstruction of courthouse: (a) furnishing and delivering, (b) reduction, from Barber & Ross, 11th and G St., N. W., (a) $23,000, (b) $112 per ton; American Bridge Co. of New York, 600 Continental Trust Bldg., Baltimore, (a) $24,400, (b) $118; Chesapeake Iron Works, Westport, Baltimore, (a) $25,865, (b) $130. Noted Apr. 5.

★**Cranes—Va., Norfolk**—Bureau Yards and Docks, Navy Dept., Wash., let contract furnishing locomotive jib cranes at Navy Yards, Norfolk and Phila., to Penn Bridge Co., Bond Bldg., Wash., $101,341. Noted Apr. 19.

Cement—W. Va., Wheeling—U. S. Engr. Office, Wheeling, received low bids, Apr. 9, Item 1, furnishing and delivering 40,000 bbls. American Portland cement for dams Nos. 21 and 22, Ohio River, Item 2, allowance for each sack returned, from Alpha Portland Cement Co., Easton, Pa., (1) $2.52 per bbl. discount of 5c. per bbl. for cash in 10 days from date of invoice; (2) 10c.; Atlas Portland Cement Co., 30 Broad St., New York, (1) $2.35 per bbl.; U. S. to prepay freight charges on empty cement sacks and return same within 90 days after purchase, (2) 10c.; Universal Portland Cement Co., Frick Bldg., Pittsburgh, (1), $2.25 per bbl.; not on bin tested, but guaranteed to conform to our specifications. Bin inspected cement will be furnished when it can be done without interference with prior obligations at rate of $2.28 per bbl.; (2) 10c. Noted Apr. 5.

Lockkeepers Houses—U. S. Engr. Office, Wheeling, received low bids, two 2-story, 14-room houses at each of dams Nos. 23, 25 and 27, Ohio River and one 2-story, 14-room double house at Dam No. 22, Ohio River, from E. N. Everson, Brilliant, O., and R. A. Miller, Middleport, O.

Dredging—Ga., Savannah—U. S. Engr. Office, Savannah, received bids, Apr. 14, dredging 21-ft. channel, Savannah Harbor from P. Sanford Ross, Inc., 277 Washington St., Jersey City, N. J., $165,040; Globe Dredging Co., Savannah Bank & Trust Bldg., Savannah, $171,600; Bowers Southern Dredging Co., Galveston, Tex., $172,400.

Stone Riprap—Mich., Harbor Beach—U. S. Engr. Office, Detroit, received bids furnishing and placing, along lake front of main and south breakwaters, from T. L. Durocher, Box 1000, Marquette, $156,590, and Great Lakes Dredge & Dock Co., Monroe Bldg., Chicago, $202,520. Noted Apr. 5.

Canal Work—Mont., St. Ignatius—U. S. Rec. Ser., St. Ignatius, received low bids Apr. 5 laterals on Flathead Project as follows: (a) Schedule 1, (b) Schedule 2, (c) Schedule 3, (d) Schedule 4, (e) Schedule 5, (f) Schedule 6, from J. A. Fletcher & Co., Seattle, (a) $22,745, (b) $23,892, (c) $15,455, (d) $12,245; Ball & Jaffe, Seattle, (a) $15,690, (b) $14,782, (c) $10,660, (d) $7065; Pearson Constr. Co., New York City Bldg., Seattle, (a) $19,815, (b) $23,582, (c) $15,815, (d) $10,555, (e) $9495, (f) $5452; F. Meers, St. Ignatius, (f) $4202; Higgins & Ross, Polson, (a) $17,225, (b) $19,717, (c) $13,177, (d) $8872; Mendenhall, Bird Co., Springfield, Utah, (a) $17,397, (b) $16,647, (c) $11,727, (d) $7610, (e) $6475, (f) $3652.

Post Office—N. M., Las Cruces—J. A. Wetmore, superv. archt., Treasury Dept., Wash., received bids, Apr. 20, limestone, from Latimer & Benning, Massachusetts Bldg., Kansas City, Mo., $88,743. W. D. Lovell, 415 8th St., S. E., Minneapolis, $90,600; W. O'Neill Sons Co., Faribault, Minn., $92,955; only bid on sandstone from E. Schuler, Pasadena, Cal., $108,745.

Buildings—Alaska, Seward—Bureau Yards and Docks, Navy Dept., Wash., received only bid radio and masts at naval radio station from Martin & Dugan Constr. Co., 627 Northern Bank Bldg., Seattle, $58,000. Noted Apr. 5.

MISCELLANEOUS

Proposed Work

Wharf—Mass., Malden—See "Industrial Works."

Subway—N. Y., Olean—Traffic Com. of Chamber of Commerce, submitted plan to city for subway on North Union St. at Pennsylvania R.R. crossing to improve traffic conditions. W. Abrams, secy. com. A. C. Shand, Broad St. Station, Phila., ch. engr. of R.R.

Piers—N. J., Jersey City—City plans series of piers on 250 acres property on Hudson River shore in Caven Point Dist. C. A. Van Keuren, city engr.

Playgrounds—N. J., Jersey City—Dept. Pub. Grounds and Bldgs. plans playgrounds at Bergen Ave., Henderson, 8th, Bright and Maxwell St., also improving Riverview Park. C. A. Van Keuren, city engr.

Park Improvements—Pa., Phila.—City plans improving park at 24th St., Passyunk Rd. and Snyder Ave.; also park at McKean Pkwy., Snyder Ave. and 24th St. G. S. Webster, engr. dept. pub. wks.

Playground—Pa., Phila.—City plans, Lombard, South, 9th and 10th St. G. S. Webster, engr. dept. pub. wks.

Station Platform—Pa., Phila.—See "Structural Steel."

Fire Alarm System—Fla., Orlando—City voted $10,000 bonds to install fire alarm system, $60,000 to build municipal building and $60,000 to pave streets.

Docks and Terminals—Ala., Mobile—W. Smith, city engr., prepared plans docks and terminals on city property, including bulkhead and pier, apron wharf and breakwater pier, retaining wall, dredging of 30-ft. channel and railroad tracks to connect with railroad system of city. About $503,470, excluding about $100,000 necessary for railway sheds and equipment.

Dock—Wis., Milwaukee—See "Reinforced Concrete."

Levee and Terminal Warehouse—Ia., Muscatine—City Council plans to spend $25,000 to build on river. C. H. Young, engr.

Park Improvements—Okla., Tulsa—See "Streets and Roads."

Tunnel—Cal., Los Angeles—(Official)—Bd. Pub. Wks. rejected only bid received Mar. 26, Bunker Hill at 2nd St. from Hill to Figueroa St. and will probably readvertise. Noted Apr. 12.

Tunnel—Cal., Sierra City—Sierra Mining Co. plans 4000-ft. About $40,000.

Bids Desired

Retaining Walls—Conn., Bristol—See "Streets and Roads."

Ballast—N. Y., New York—Until May 9 by Pub. Ser. Com. for 1st Dist., 120 Broadway, supply of ballast for use in construction of rapid transit railroads. O. Straus, chn.

Garbage Incinerator—N. J., New Brunswick—(Official)—Until May 8 by Bd. Comrs.; advertised in this issue.

Foundations—Pa., Phila.—(Official)—Until May 1 by W. S. Twining, dir. dept. city transit, 754 Bourse Bldg., for 168 column foundations in Frankford Ave. from Unity St. to Dyre St. Frankford Elevated Ry., Contract No. 503.

Revetment Wall—O., Cincinnati—Until May 4 F. E. Wesselmann, pres. bd. co. comrs., on Clough Rd. No. 358, at State Rd. No. 381, Anderson Twp., specification No. 984.

Turbine and Generator—Ill., Lockport—(Official)—Until May 17 by J. McGillen, clk., Sanitary Dist. of Chicago; advertised in this issue.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Shipways—Mass., Quincy**—See "Structural Steel."

★**Elimination of Grade Crossing—N. Y., Buffalo**—Grade Crossings Comn. let contract for Erie R.R. at Louisiana St., substructure to Eastern Concrete Steel Co., Morgan Bldg., $92,500.

N. Y., New York—(Official)—Station Finish—Pub. Ser. Comn. for 1st Dist., received low bids, Apr. 18, station finish on portion Park Pl., William and Clark St. Subway, from J. B. Roberts, 3 West 29th St., $139,919; Seventh Ave. Contr. Co., 335 West 16th St., $142,986; Snare & Treist Co., Woolworth Bldg., $145,860. Noted Apr. 5.

★**Pavilion, etc.—N. J., Ocean City**—(Official)—City let contract addition to music pavilion and boardwalk to Allen Scull, Ocean City, $18,744.

★**Culverts—N. D., Schafer**—(Official)—County let contract about 120 culverts to Northwestern Steel & Mach. Co., Wahpeton.

★**Retaining Wall—Mo., Kansas City**—See "Reinforced Concrete."

★**Fill—Ore., Portland**—Oregon-Washington R.R. & Navigation Co., Wells Fargo Bldg., let contract earthen fill, near Weston and Blue Mountain, on Pendleton-Walla Walla line, to Grant Smith & Co., Henry Bldg., Seattle, $110,000; 300,000 yd. fill, near Alto, on Walla Walla-Starbuck Line, to General Construction Co., North 1324 Elm St., Spokane, $80,000; fill at Rufus on main line along Columbia River to A. Guthrie & Co., Inc., Peninsula Tunnel, Portland, $25,000.

★**Pierhead—Ont., Toronto**—Toronto Harbor Comn. let contract covering 6000-ft. western portion of harbor, to R. Weddell & Co., Spadina Ave., Port Arthur Constr. Co. and J. O. Roddick. About $600,000.

The Quartermaster Dept., War Department, has prepared plans and specifications for the construction of cantonments to be located throughout the country to accommodate the new Natl Army when it is brought into being. The plans have been drawn for some time but the Department is taking no active steps at the present time for the reason that as yet no money has been appropriated and the sites for the proposed camps have not yet been selected. Preparations are being made however to accommodate 1,000,000 men. The buildings are to be of a one-story type, and in metal, concrete, or wood in accordance with local requirements and the degree of permanency of the camp. The estimated cost of construction of these cantonments is about $75,000,000, including hospitals, roads, sewers and water systems. Nothing has been done as yet towards securing bids for the work, but it is expected that bids will be asked on the basis of construction of each camp by one contractor rather than by several contractors furnishing material and supplies.

PRICES and CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Price advances are indicated by **heavy type**; declines by *italics*.

IRON AND STEEL

Pig Iron—Below are the present quotations, with a comparison of a month and a year ago:

	Apr. 30, 1917	One Month Ago	One Year Ago
CINCINNATI			
No. 2 Southern foundry	$37.90	$32.90	$17.90@18.40
No. 2 Northern foundry	....	37.26	20.26
NEW YORK			
No. 2X Northern foundry	41.50	40.70	20.25@20.75
No. 2 plain Northern foundry	....	39.20	20.25@20.50
No. 2 Southern foundry†	....	34.25	20.25@20.50
BIRMINGHAM			
No. 2 Southern foundry	35.00	30.00	15.00
CHICAGO			
No. 2 Northern foundry	41.00	38.00	19.00
PITTSBURGH			
Bessemer iron*	42.95	38.95	21.95
Basic iron*	40.00	35.00	18.95

*These prices include the freight charge from the valley to the Pittsburgh district. †Delivered Tidewater, New York.

Pipe—The following discounts are for carload lots f.o.b. Pittsburgh, in effect Apr. 2, 1917:

Steel			Iron		
Inches	Black	Galvanized	Inches	Black	Galvanized
Butt Weld					
¾ to 3	55%	41½%	¾ to 1½	44%	28%
Lap Weld					
2	48%	35½%	1¼	29%	14%
2½ to 6	51%	38½%	1½	36%	22%
7 to 12	48%	34½%	2	37%	23%
13 and 14	38½%	....	2½ to 4	39%	26%
15	36%	....	4½ to 6	39%	26%
			7 to 12	38%	25%
Butt Weld, Extra Strong Plain Ends					
¾ to 1½	53%	40½%	¾ to 1½	44%	29%
2 to 3	54%	41½%			
Lap Weld, Extra Strong Plain Ends					
2	46%	34½%	1¼	30%	15%
2¼ to 4	49%	37½%	1½	36%	22%
4½ to 6	48%	36½%	2	38%	25%
7 to 8	44%	30½%	2¼ to 4	40%	28%
9 to 12	41%	25½%	4½ to 6	39%	27%
			7 to 8	33%	21%
			9 to 12	28%	16%

From warehouses at the places named the following discounts hold for steel pipe:

	Black		
	New York	Chicago	St. Louis
¾ to 3 in. butt welded	44%	48.8%	47.27%
3½ to 6 in. lap welded	36%	44.8%	43.27%
7 to 12 in. lap welded	....	41.8%	40.27%
	Galvanized		
	New York	Chicago	St. Louis
¾ to 3 in. butt welded	28%	33.8%	32.27%
3½ to 6 in. lap welded	18%	30.8%	29.27%
7 to 12 in. lap welded	....	26.8%	25.27%

Malleable fittings, Class B and C, from New York stock sell at 5 and 5% from list prices. Cast iron, standard sizes, 34 and 5%.

Bars, Concrete Reinforcing—The following quotations are per 100 lb.:

ROLLED FROM BILLTS

	Warehouse					
	Mill	New York				San
In.	Shipment	Apr. 30, 1917	One Month Ago	St. Louis	Chicago	Dallas	Francisco
¾ and larger	$3.50	$4.60	$4.45	$3.74	$4.25	$4.75	$4.50
⅝	3.55	4.70	4.55	3.79	4.30	4.80	4.55
½	3.60	4.80	4.65	3.84	4.35	4.85	4.60
⅜	3.75	4.95	4.80	3.99	4.50	5.00	4.75
¼	4.00	5.30	5.15	4.24	4.75	5.25	5.00

ROLLED FROM RAILS

	St. Louis	Dallas		St. Louis	Dallas
¾ and larger	$3.50	$4.50	⅜	$3.75	$4.75
⅝	3.55	4.55	¼	4.50	5.00
½	3.60	4.60			

Rivets—The following quotations are per 100 lb.:

	Structural					
	Mill,	Warehouse				
	Pittsburgh	New York	Chicago	St Louis	San Francisco	Dallas
¾ in. and larger	$4.75	$6.50	$5.00	$5.05	$6.60	$7.50
	Cone Head Boiler					
¾ in. and larger	4.85	6.60	5.10	5.15	6.70	7.60
⅝ and 11/16	5.00	6.75	5.25	5.30	6.85	7.75
½ and 9/16	5.35	7.10	5.60	5.65	7.20	8.10

Lengths shorter than 1 in. take an extra of 50c. Lengths between 1 in. and 2 in. take an extra of 25c.

Sheets—Quotations are in cents per pound in various cities from warehouse, also the base quotation from mill:

					New York	
Blue Annealed	Large Lots, Pittsburgh	St. Louis	Chicago	San Francisco	Apr. 30, 1917	One Mo. Ago
No. 10	5.80	6.30	6.25	7.25	6.80	6.00
No. 12	5.85	6.36	6.30	7.30	6.85	6.05
No. 14	5.90	6.40	6.35	7.35	6.90	6.10
No. 16	...	6.45	6.40	7.40	...	...
Black						
Nos. 18 and 20	6.05	6.15	6.80	7.45	7.30	6.30
Nos. 22 and 24	6.10	6.20	6.85	7.55	7.35	6.35
No. 26	6.15	6.25	6.90	7.65	7.40	6.40
No. 27	6.20	6.30	6.95	7.75	7.45	6.45
No. 28	6.25	6.35	7.00	7.85	7.50	6.50
Galvanized						
No. 10	6.75	Premium	8.20	...	8.45	7.10
No. 12	6.80	Premium	8.20	8.46	8.50	7.15
No. 14	6.85	Premium	8.20	8.46	8.55	7.20
Nos. 18 and 20	7.20	Premium	8.40	8.76	8.85	7.50
Nos 22 and 24	7.30	Premium	8.55	8.90	9.05	7.70
No. 26	7.45	Premium	8.70	9.05	9.20	7.95
No. 27	7.50	Premium	8.85	9.20	9.35	8.10
No. 28	7.75	Premium	9.00	9.39	9.50	8.25

Steel Rails—The following quotations are per 100 lb. f.o.b. Pittsburgh and Chicago for carload or larger lots. For less than carload lots 5c per 100 lb. is charged extra:

	Pittsburgh	Chicago
Standard bessemer rails	$38.00	$38.00
Standard openhearth rails	40.00	40.00
Light rails, 8 to 10 lb.	58.00	58.00
Light rails, 12 to 14 lb.	57.00	57.00
Light rails, 25 to 45 lb.	55.00	55.00

Track Supplies—The following prices are base per 100 lb. f.o.b. Pittsburgh for carload lots, together with the warehouse prices at the places named:

	Pittsburgh	Chicago	St. Louis	San Francisco
Standard railroad spikes	$3.85	$4.10	$4.40	$5.00
Track bolts	5.45	5.60	Premium	6.00
Standard section angle bars	3.50@3.75	3.50	Premium	4.35

Nails—The following quotations are per keg from warehouse:

	New York				
	Apr. 30, 1917	One Year Ago	St. Louis	Chicago	Dallas
Wire	$3.85	$2.90	$4.00	$4.00	$3.86
Cut	4.50	2.90	4.00	4.20	....

Structural Material—The following are the base prices f.o.b. mill, Pittsburgh, together with the quotations per 100 lb. from warehouses at the places named:

		New York					
	Pitts-burgh	Apr. 30, 1917	One Yr Ago	St. Louis	Chi-cago	San Fran-cisco	Dallas
Beams, 3 to 15 in.	$3.80	$4.75	$3.30	$4.55	$4.75	$6.25	$5.25
Channels, 3 to 15 in.	3.80	4.75	3.30	4.55	4.75	6.25	5.25
Angles, 3 to 6 in., ¼ in. thick	3.80	4.75	3.30	4.55	4.75	6.15	5.25
Tees, 3 in. and larger	3.80	4.80	3.35	4.55	4.80	6.25	5.25
Plates	5.50	6.50	4.25	6.05	6.00	8.50	7.50

New York extras on other shapes and sizes per lb. are as follows:

I-beams over 15 in.	$0.10
Angles over 6 in., on one or both legs	.10
Angles, 3 in., on one or both legs less than ¼ in. thick	.70
Cutting to lengths, under 3 ft. to 2 ft. inclusive	.25
Cutting to lengths, under 2 ft. to 1 ft. inclusive	.50
Cutting to lengths, under 1 ft.	....

No charge is made for cutting to lengths 3 ft. and over.

Wire Rope—Discounts from list price on regular grades of bright and galvanized are as follows:

	New York				
	Apr. 30, 1917	One Year Ago	St. Louis	Chicago	Dallas
Galvanized	15-2½%	25-2½%	10-2½%	15-2½%	7½-12½-5%
Bright	25-2½%	35-2½%	20-2½%	25-2½%	17½-12½-5%

Expanded Metal Lath—Prices per 100 yd. for painted are as follows:

		New York		Carload			
Gage	Weight	Less Than Carload	Carload	Chicago*	St. Louis	San Francisco	Dallas
27	233	$23.94	$24.12	$24.00	$24.00	$24.00	$22.00
26	250	24.97	25.05	25.00	25.00	25.25	....
25	300	26.07	26.16	26.00	....	....	25.00
24	340	27.14	27.25	27.00	27.00	28.00	26.00
22	450	29.33	29.47	29.00	....	....	....

About 10% additional for smaller quantities.

Steel Sheet Piling—The following price is base per 100 lb. f.o.b. Pittsburgh, with a comparison of a month and a year ago:

Apr. 30, 1917	One Month Ago	One Year Ago
$3.60@4.00	$3.35	$2.50

Cast-Iron Pipe—The following are prices per net ton for carload lots:

	New York							
	Apr. 30, 1917	1 Mo. Ago	One Year Ago	Birmingham	Chicago	St. Louis	San Francisco	Dallas
4 in.	$58.50	$50.75	$33.75	$53.00	$58.15	$57.00	$66.00	$62.00
6 in. and over	55.50	47.50	30.75	50.00	55.15	54.00	63.00	49.00

Gas pipe and 16-ft. lengths are $1 per ton extra.

Old Material—The prices following are per gross ton paid to dealers and producers in New York. In Chicago and St. Louis and vicinity, the quotations are per net ton and cover delivery at the buyer's works, including freight transfer charges:

	New York	
	Apr. 30, 1917	One Month Ago
Heavy melting steel scrap	$21.50	$23.50@24.50
No. 1 railroad wrought	38.00	31.00@32.00
Stove plate	16.50	16.00@17.00
No. 1 machinery cast	24.50	24.00@25.00
Machine shop turnings	11.50	13.00@13.50
Cast borings	13.50	13.50@14.00
Railroad malleable cast	22.50	22.50@23.00

	Chicago	
	Apr. 30, 1917	One Month Ago
No. 1 railroad wrought	$32.00	$27.50@28.00
Stove plate	14.50	12.50@13.00
No. 1 machinery cast	21.50	18.25@18.75
Machine shop turnings	10.50	9.50@10.00
Cast borings	11.00	10.00@10.50
Railroad malleable cast	21.50	18.50@19.00

Triangle Mesh Reinforcement—Price per 100 sq.ft. in carload lots:

Style Number	Sectional Area Square Inches per Foot Width	Pittsburgh	New York	Chicago	St. Louis	Dallas
Plain 4-in. x 4-in. Mesh.						
032	0.032	$0.89	$0.92	$0.93	$0.94	$1.06
049	0.049	1.13	1.18	1.18	1.20	1.34
068	0.068	1.42	1.47	1.49	1.50	1.68
093	0.093	1.82	1.89	1.91	1.93	2.17
126	0.126	2.31	2.39	2.42	2.44	2.74
153	0.153	2.75	2.86	2.88	2.91	3.27
180	0.180	3.16	3.27	3.31	3.34	3.76
245	0.245	4.17	4.33	4.36	4.41	4.96
287	0.287	4.82	5.00	5.04	5.10	5.72
336	0.336	5.59	5.80	5.85	5.92	6.66
395	0.395	6.48	6.72	6.78	6.86	7.73
Plain 4-in. x 8-in. Mesh						
036P	0.036	.69	.71	.72	.73	.82
053P	0.053	.97	1.01	1.02	1.03	1.16
072P	0.072	1.26	1.30	1.32	1.33	1.50
097P	0.097	1.62	1.68	1.70	1.71	1.93
049R	0.049	.97	1.01	1.02	1.03	1.15
067R	0.067	1.26	1.30	1.32	1.33	1.50
089R	0.389	1.62	1.68	1.70	1.71	1.93

Made in 16-, 20-, 24-, 28-, 32-, 36-, 40-, 44-, 48-, 52- and 56-in. width in rolls 150-, 200- and 300-ft. lengths.

Galvanized runs about 10% higher than plain.

Freight Rates—On finished steel products in the Pittsburgh district, including plates, structural shapes, merchant steel, bars, pipe fittings, plain and galvanized wire nails, rivets, spikes, bolts, flat sheets (except planished), chains, etc., the following freight rates are effective in cents per 100 lb.:

Baltimore	15.4	Minneapolis	32.9
Boston	18.9	New Orleans	30.7
Buffalo	11.6	New York	16.9
Chicago	18.9	Pacific Coast (all rail)	75.0
Cincinnati	15.8	Philadelphia	15.9
Cleveland	10.5	St. Louis	23.6
Denver	68.6	St. Paul	32.9
Kansas City	43.6		

CEMENT, BRICK AND STONE

Paving Stone—

		Apr. 30, 1917
Boston	Granite 5-in.	$2.45 sq.yd.
New York	Manhattan	2.50 sq.yd.
	Other boroughs	2.25 sq.yd.
Chicago	About 4x8x4 dressed	2.15 sq.yd.
	About 4x8x4 common	1.75 sq.yd.
San Francisco	Basalt block 4x7x8	57.75 per M
Kansas City	Limestone	2.00 sq.yd.
Cincinnati	Granite	2.35 sq.yd.
New Orleans	Granite	60.00 per M

Curbing—Prices per linear foot are as follows:

		Apr. 30, 1917
New York	5 x 16	$0.40
	5 x 20	.45
Chicago	6 x 18	.45
St. Louis	5 x 16 square edge	.72
	5 x 16 bull nose	.76
San Francisco	5 x 16	.75
	5 x 20	.85

Flagging—

		Apr. 30, 1917
New York	Bronx	$0.17 sq.ft.
	Manhattan	.17 sq.ft.
	Queens, 5 ft. square	.18 sq.ft.
Chicago	3 in. wide	.60 lin.ft.

Sand and Gravel—Price for cargo or carload lots is as follows, per cu.yd.:

		Gravel				Sand	
		1½ In.		¾ In.			
	Paving	Apr. 30, 1917	One Year Ago	Apr. 30, 1917	One Year Ago	Apr. 30, 1917	One Year Ago
New York	$1.35	$1.25	$0.80	$1.35	$0.85	$0.50	$0.[illegible]
Chicago	1.40	1.40	.95	1.40	.95	1.10	.[illegible]
St. Louis	....	.85	.70	.85	.70	.91	.[illegible]
Dallas	....	1.10	....	....	....	1.30	....
San Francisco	2.00	1.00	1.25	1.00	1.25	1.00	....
Los Angeles	....	.85	....	.85	....	.35	....
Cincinnati*	....	.90	....	.85	....	.85	....
New Orleans	....	1.50	....	2.00	....	1.04	....
Boston	....	1.50	....	1.55	....	.80	....
Kansas City	2.00	2.25	.60	....	....	....	....
Seattle	....	.75	....	.75	....	.75	....
Denver	....	1.00	....	1.00	....	.60	....

*Per ton.

Fine White Sand—St. Louis:

Pacific ..... $4.50 ton Ottawa ..... $5.00 ton

Crushed Stone—Price for cargo or carload lots is as follows, per cu.yd.:

	1½ In.		¾ In.	
	Apr. 30, 1917	One Year Ago	Apr. 30, 1917	One Year Ago
New York	$1.10	$0.85	$1.25	$0.95
Chicago	1.40	.95	1.40	.95
St. Louis	1.25	1.00	1.25	1.00
Dallas	1.36	....	1.49	....
San Francisco	1.00	1.25	1.00	1.25
Cincinnati	1.00	....	1.00	....
Los Angeles	.95	....	1.00	....
New Orleans	2.25	....	4.00	....
Boston	1.25	....	1.25	....
Kansas City	1.25	....	1.35	....
Seattle	1.50	....	1.50	....
Denver	1.00	....	1.00	....

Rosendale Natural Cement—Price to dealers for 500 bbl. or over, f.o.b., including bags:

New York $1.10

30c. allowed for bags.

Portland Cement—These prices are for barrels in carload lots, including bags:

	April 30, 1917	One Month Ago	One Year Ago
New York	$2.40	....	$1.72
Jersey City	2.16	$2.00	1.66
Boston	2.20	2.20	1.87
Chicago	2.16	2.16	1.86
Pittsburgh	2.16	2.16	1.81
Cleveland	2.29	2.29	1.91
Detroit	2.25	2.25	1.95
Indianapolis	2.29	2.29	1.99
Toledo	2.29	2.29	1.94
Milwaukee	2.28	2.28	1.98
Minneapolis	2.48	2.48	2.13
Duluth	2.41	2.41	2.04
Peoria	2.28	2.28	1.94
Cedar Rapids	2.39	2.39	2.05
Davenport	2.34	2.34	1.95
St. Louis	2.30	2.20	1.85
Cincinnati	2.29	2.19	....
San Francisco	2.60	2.60	2.30
Kansas City	2.24	2.24	....
New Orleans	2.47	2.36	....
Houston	....	2.05	....
Los Angeles	2.30	2.30	....
Seattle	2.50	2.50	....
Denver	2.89	2.89	....

Brick—The price per 1,000 in cargo or carload lots is as follows:

	Common			Paving	
	Apr. 30, 1917	One Year Ago	One Month Ago	Brick	Block
New York	$11.50	$7.25	$9.50	....	....
Chicago	6.00	6.25	6.00	$16.00	$21.00
St. Louis, salmon	7.00	6.00	7.00	....	18.00
St. Louis, selected red	10.00	9.50	....	....	....
Dallas	8.10	....	....	....	....
San Francisco	10.00	9.00	10.00	....	30.00
Seattle	7.00	....	7.00	....	28.75
New Orleans	7.75	....	7.50	....	27.00
Kansas City	10.00	....	9.50	....	20.00
Los Angeles	7.50	....	5.75	....	25.00
Boston	12.50	....	12.50	....	24.00
Denver	8.00	....	7.50	....	....
Cincinnati	12.50	....	9.00	....	23.50

Lime—The following prices per ton prevail at warehouse in cities named:

	Hydrated	Common
New York	$16.50	$13.25
St. Louis	11.25	10.00
Chicago	15.00	12.00
Dallas	18.50	13.50

MISCELLANEOUS

Manila Rope—Price in coils per lb. in cities named, ¾ to 1½ in.:

Boston	$0.27	Los Angeles	$0.[illegible]
Cincinnati	.27	San Francisco	.25
Kansas City	.26½	Seattle	.26½
New Orleans	.26	Denver	.28
Chicago	.25½		

Railway Ties—For fair-size orders, the following prices per tie hold:

	Material	7 In. x 9 In. by 8 Ft.	6 In. x 8 In. by 8 Ft.
New York	Yellow Pine	$1.15@1.20	$1.06@1.11
St. Louis	White Oak	.72	.61
Chicago	White Oak	.95	.85

Sewer Pipe—The following prices are in cents per foot for carload lots:

Size, In.	New York Apr. 30, 1917	New York One Year Ago	St. Louis	Chicago	Dallas
3	.087	.0675	...	.075	.0888
4	.087	.0675	...	.075	.0888
5	.1305	.108	...	.12	.1332
6	.1305	.108	.11	.12	.1332
8	.203	.1485	.15	.175	.1975
10	.3045	.2160	.21	.2625	.2765
12	.3915	.27	.30	.3375	.3555
15	.522	.3645	.45	.45	.5135
18	.725	.516	.68	.625	.6715
20	.87	.6075	.86	.75	.79
22	1.16	.81	1.03	1.00	1.027
24	1.305	.8775	1.15	1.125	1.185
27	1.95	1.58	1.30	.....	.....
30	2.16	1.93	1.70	.....	.....
33	2.88	2.50	2.25	.....	.....
36	3.28	2.80	2.50	.....	.....

Size, In.	Seattle	New Orleans	Kansas City	Cincinnati	Denver	Los Angeles	Boston
3	.075	.041	.08	.081	.075	.055	.096
5	....	.0641	.11	.1215	.10	.09	.144
8	.225	.120	.15	.189	.225	.16	.224
12	.413	.226	.27	.3645	.375	.265	.432
24	1.75	.8961	.15	1.44	1.25	1.00	1.44
36	....	....	2.40	3.69	2.50	....	3.5875

Clay Drain Tile—The following prices are per 1,000 lin ft.:

	St. Louis	Chicago	Dallas
3	$18.40	$15.00	$19.80
4	20.70	18.00	28.10
5	28.75	23.00	....
6	40.25	27.00	45.95
8	74.75	55.00	82.75

Hollow Tile—Hollow building tile price per block:

	New York	Chicago	St. Louis	San Francisco	Dallas
4x12x12	$0.0925	$0.0685	$0.054	$0.07	$0.07
6x12x12	.1295	.1027	.066	.095	.09
8x12x12	.15725	.1186	.09	.12	.12
10x12x12	.185	.1369	.15	.18	.15
12x12x12	.23125	.1779	.18	.20	.18

Above prices are for carload lots or more.

	Seattle	New Orleans	Kansas City	Cincinnati	Los Angeles	Boston
4x12x12	.055	.087	.0489	.0628	.04	.08
8x12x12	.095	.139	.0938	.1175	.075	.13
12x12x12	.15	.184	.131	.159	...	.185

Explosives—Price per pound at cities named:

	Low Freezing 20%	Gelatin 40%	Gelatin 60%	Gelatin 80%
New York	....	$0.21¾	$0.27¾	....
Boston	$0.17	.19½	.23½	$0.32½*
Cincinnati	.15¾	.18¼	.22¼	.33¼
Kansas City	.16	.21	.27	.33½
Phœnix	.15	.20	.26	.32½
New Orleans	.17½	.19¾	.23¾	....
Los Angeles	.17¾	.20½	.26½	....
San Francisco	.12¼	.17¼	.23¼	.30¼
Seattle	.11¼	.17	.23	.30
Chicago	.14½	.19	.25	.32

*75%.

Road Oils—Following are prices in tank cars 8000 gal. minimum f.o.b. place named:

New York, 40-50% asphalt	6½c. gal.
New York, 60-70% asphalt	6¼c. gal.
New York, dust layer, 30%	6½c. gal.
New York, binder	7½c. gal.
St. Louis, 60-80% asphalt	5c. gal.
Chicago, 15-20% asphalt	6½c. gal.
Dallas, 40-50% asphalt	5c. gal.
Dallas, 60-70% asphalt	6c. gal.
San Francisco, 75-95% asphalt, 42-gal. bbl	$1.83 bbl

Wood Block Paving—

New York—3½ in. block 16 lb. treatment	$2.00 sq.yd.
New York—4 in. block 16 lb. treatment	2.25 sq.yd.
Chicago—4 in. block 16 lb. treatment	1.75 sq.yd.
Chicago—City specifications	2.05 sq.yd.
St. Louis—3½ in. block 16 lb. treatment	1.60 sq.yd.
New Orleans—3½ in. block 16 lb. treatment	1.50 sq.yd.
New Orleans—4 in. block 16 lb. treatment	1.71 sq.yd.
Seattle—4 in. block 16 lb. treatment	1.40 sq.yd.
Boston—4 in. block 20 lb. treatment	1.92 sq.yd.
Cincinnati—4 in. block 16 lb. treatment	1.75 sq.yd.
Denver—4 in. block 12 lb. treatment	1.86 sq.yd.
Kansas City—4 in. block 16 lb. treatment	1.75 sq.yd.

Linseed Oil—These prices are per gallon:

	New York Apr. 27, 1917	New York Six Months Ago	Cleveland Apr. 27, 1917	Cleveland Six Months Ago	Chicago Apr. 27, 1917	Chicago Six Months Ago
Raw in barrels	$1.21	$0.81	$1.25	$0.97	$1.20	$0.92
5-gal. cans	1.31	.91	1.35	1.07	1.30	1.02

Boiled, 1c. per gal. additional.

White and Red Lead, in cents per pound, sell as follows:

	Red Apr. 27, 1917 Dry	Red Apr. 27, 1917 In Oil	Red 6 Months Ago Dry	Red 6 Months Ago In Oil	White Apr. 27, 1917 Dry and In Oil	White 6 Months Ago Dry and In Oil
100-lb. keg	11.25	11.50	10.50	11.00	11.00	10.50
25- and 50-lb. kegs	11.50	11.75	10.75	11.25	11.25	10.75
12½-lb. keg	11.75	12.00	11.00	11.50	11.50	11.00
1- to 5-lb. cans	13.25	13.50	12.50	12.50	13.00	12.50

Asphaltum—Price per ton in packages and bulk in carload lots:

	Brand	Package	Bulk
New York	Texaco	$25.00	....
New York	Mexican	19.00	$11.00
Chicago	Mexican	22.00	18.00
St. Louis	Mexican	22.50	19.50
San Francisco	California	14.50	12.00
Dallas	Texaco and Mexican	19.00	....
Kansas City	Texaco	18.00	....
Denver	California	27.00	....
Denver	Trinidad	45.00	....

Poles—The price on Western red cedar poles:

	Apr. 30, 1917	One Year Ago	Chicago	St. Louis	Denver
6 in. by 30 ft.	$5.24	$4.77	$4.59	$4.59	$3.97
7 in. by 30 ft.	6.90	5.90	6.10	6.10	8.60
7 in. by 35 ft.	9.70	7.85	8.60	8.60	7.55
8 in. by 35 ft.	11.20	9.75	9.90	9.90	8.65
7 in. by 40 ft.	11.35	9.95	10.00	10.00	8.75
8 in. by 40 ft.	12.75	....	11.15	11.15	9.65
8 in. by 45 ft.	15.70	14.45	13.70	13.70	11.80
8 in. by 50 ft.	18.35	16.85	15.95	15.95	13.65

Lumber—Price per M in carload lots:

Square Edge and Sound Green

Timbers 5 x 5

	Southern Pine New York 20 Ft. and Under	Southern Pine New York 22-24 Ft.	Southern Pine Chicago 20 Ft. and Under	Southern Pine Chicago 22-24 Ft.	Yellow Pine St. Louis 20 Ft. and Under	Yellow Pine St. Louis 22-24 Ft.
3x 4 to 8x 8	$30.75	$31.75	$28.75	$29.75	$23.00	$24.00
3x10 to 10x10	31.75	32.75	29.75	30.75	24.00	25.00
3x12 to 12x12	34.75	35.75	32.75	33.75	25.50	26.50
3x14 to 14x14	36.75	37.75	34.75	35.75	27.00	28.00
3x16 to 16x16	39.75	40.75	37.75	38.75	39.00	30.00
3x18 to 18x18	43.75	44.75	41.75	42.75	31.00	32.00
4x20 to 20x20	48.75	49.75	46.75	47.75	35.00	36.00

Over 32 ft—Add $1 for each additional 2 ft in length up to 40 ft. for sizes 12x12 and under; for sizes over 12x12 add $2. For merchantable add $2 to sizes 10x10 and under. For prime add $2 to the price of merchantable for all sizes.

Yellow Pine—Dallas. Price per M:

No. 1 Common		No. 1 Common	
2x 4—12 ft. to 24 ft.	$30.00	4x4, 4x6, 6x6	$30.00
2x 6—10 ft. to 24 ft.	30.00	3x8, 6x8, 8x8	32.50
2x 8—12 ft. to 24 ft.	30.00	3x10, 8x10, 10x10	35.00
2x10—12 ft. to 24 ft.	30.00	3x12, 12x12	37.50
2x12—12 ft. to 24 ft.	30.00		

Rough Douglas Fir, No. 1 Common—More than carload lots in San Francisco:

Size in Inches	15 Ft. and Under	16 to 24 Ft.	25 to 32 Ft.
3 and 4x4	$16.00	$17.50	$19.00
3 and 4x6 and 8	16.00	16.50	17.50
6x6 to 8x8	16.50	17.50	17.50
3 and 4x10	16.00	17.50	18.50
6 and 8x10	17.00	18.00	18.00
10x10	17.00	17.00	19.00
3 and 4x12	16.00	17.50	18.50
6 and 8x12	17.50	18.50	18.50
10 and 12x12	17.00	17.00	19.00
3 and 4x14	17.00	19.00	20.00
6 and 8x14	18.50	19.50	19.50
7 and 9x14	19.50	20.50	20.50
10 and 12x14	18.00	18.00	20.00

	1-In. Rough, 10 In. x 16 Ft. and Under Y.P.	1-In. Rough, 10 In. x 16 Ft. and Under Fir	1-In. Rough, 10 In. x 16 Ft. and Under Hemlock	2-In. T. and G., Dressed and Matched (10 in. x 16 Ft.) Y.P.	2-In. T. and G., Dressed and Matched (10 in. x 16 Ft.) Fir
Boston	$65.00	$46.00	....	$34.00	$40.00
Cincinnati	35.00	....	....	36.50	....
Kansas City	47.25	40.50	39.50	44.75	....
Denver	....	23.00	23.00	....	23.00
Seattle	17.00	17.00	17.00	17.00	17.00
Los Angeles	23.00	23.00	20.00	23.00	23.00
New Orleans†	35.00	30.00	....	40.00	33.00
Chicago	27.00	....	23.00	25.00	....
San Francisco	....	16.00	16.00	....	16.00

	8 x 8-In. x 20 Ft. and Under Y.P.	8 x 8-In. x 20 Ft. and Under Fir	8 x 8-In. x 20 Ft. and Under Hemlock	8 x 8-In. x 20 Ft. and Under Spruce	12 x 12-In., 20 Ft. and Under Y.P.	12 x 12-In., 20 Ft. and Under Fir
Boston*	$39.00	$40.00	....	$37.00	$46.00	$41.50
Cincinnati	30.00	....	....	....	33.00	....
Kansas City	35.00	31.00	31.00	....	39.50	31.00
Denver	....	26.00	26.00	....	....	28.00
Seattle	17.00	17.00	17.00	17.00	17.00	17.00
Los Angeles	....	23.00	20.00	....	23.00	23.00
New Orleans†	40.00	35.00	....	....	40.00	40.00
Chicago	27.50	34.00	25.00	....	31.00	34.00
San Francisco	....	16.00	16.00	....	....	16.00

†Cypress available instead of fir.

Old Metals—The following are the dealers' purchasing prices in cents per pound:

	New York Apr. 27, 1917	New York One Year Ago	Cleveland Apr. 27, 1917	Cleveland Six Months Ago
Copper, heavy and crucible	26.75	25.00	27.00	25.00
Copper, heavy and wire	26.50	24.50	26.00	24.00
Copper, light and bottoms	23.00	22.00	24.00	24.00
Lead, heavy	7.75	6.00	7.75	7.00
Lead, tea	7.25	5.50	5.75	6.00
Brass, heavy	16.25	14.50	17.00	20.00
Brass, light	12.50	12.00	13.00	13.00
No. 1 yellow rod brass turnings	18.50	15.25	17.00	14.50
Zinc	7.00	13.00	7.00	16.00

Where name of official is not given, inquiries should be addressed to City Clerk, County Clerk or corresponding official.

Proposals

For Proposals Advertised See Pages 59 to 66 Inclusive

WATER-WORKS

Bids Close.		See Eng. News-Record
May 5.	Martins Ferry, O.	Apr. 26
May 5.	Toronto, Ont.	May 3
May 7.	Bloomfield, N. J.	Apr. 26
May 7.	Plainfield, N. J. Adv. Apr. 26.	Apr. 26
May 7.	Reedsburg, Wis.	Apr. 26
May 7.	Jacksonville, Fla.	May 3
May 8.	East Palestine, O.	May 3
May 7.	La Moure, N. D.	May 3
May 8.	New York, N. Y.	May 3
May 9.	Cortland, N. Y. Adv. Apr. 26 and May 3.	Apr. 26
May 10.	Tennille, Ga. Adv. Apr. 19 to May 3.	Apr. 26
May 14.	Milton, Ia.	May 3
May 14.	Ogdensburg, N. J. Adv. Apr. 26, May 3.	May 3

SEWERS

May 5.	Grosse Pointe, Ill.	May 3
May 7.	White Plains, N. Y.	Apr. 19
May 7.	Huron, S. D.	Apr. 26
May 7.	West Lake, O.	Apr. 26
May 7.	Everett, Wash.	Apr. 26
May 7.	Yonkers, N. Y.	May 3
May 8.	Philadelphia, Pa.	May 3
May 9.	La Grange, Tex.	May 3
May 10.	Winnetka, Ill.	May 3
May 10.	Tennille, Ga.	Apr. 26
May 14.	Lewisville, O.	Apr. 26
May 16.	Brooklyn, N. Y.	May 3
May 23.	Mt. Rainier, Md.	May 3
May 25.	Lakewood, O. Adv. Apr. 19.	Apr. 19

STRUCTURAL STEEL WORK

May 5.	Toms River, N. J.	May 3
May 7.	Rio Vista, Cal.	Apr. 26
May 7.	Norristown, Pa. Adv. Apr. 26.	Apr. 26
May 7.	Indiana	Apr. 26
May 7.	New York, N. Y.	May 3
May 7.	New Brunswick, N. J.	May 3
May 7.	New York, N. Y.	Apr. 19
May 7.	Morristown, N. J.	May 3
May 7.	Meadville, Pa.	May 3
May 8.	Harrisburg, Pa.	May 3
May 8.	Yazoo City, Miss.	Apr. 26
May 8.	Cleveland, O.	May 3
May 8.	Pennsylvania	May 3
May 9.	Illinois	May 3
May 10.	Huntington, W. Va.	Apr. 19
May 10.	Wahpeton, N. D.	Apr. 19
May 10.	Port Angeles, Wash.	Apr. 26
May 10.	Brooklyn, N. Y.	May 3
May 11.	Elizabeth, N. J.	May 3
May 15.	Eureka, Cal.	Apr. 26
May 16.	New Castle, Pa. Adv. May 3.	May 3
May 20.	Des Moines, Ia.	May 3
May 28.	Clifton, Ariz.	May 3

REINFORCED CONCRETE

May 5.	Bethany, W. Va.	Apr. 19
May 7.	Merced, Cal.	Apr. 19
May 7.	Logan, W. Va.	Apr. 19
May 7.	Muscatine, Ia.	Apr. 26
May 7.	Sharon Springs, Kan.	Apr. 26
May 7.	Meridian, Miss.	Apr. 26
May 7.	Bradentown, Fla.	Apr. 26
May 7.	Youngstown, O.	May 3
May 7.	Linton, N. D.	May 3
May 8.	Visalia, Cal.	Apr. 19
May 8.	Nelson, Neb.	May 3
May 8.	Trenton, N. J.	May 3
May 7.	Albany, N. Y.	May 3
May 10.	Cincinnati, O.	May 3
May 11.	Portland, Ore.	May 3
May 12.	Richmond, Ind. Adv. Apr. 19 to May 3.	Apr. 26
May 12.	Louisa, Va.	May 3
May 14	California	May 3
May 15.	Hazard, Ky.	Apr. 12
May 15.	Listowell, Ont.	May 3
May 16.	Paterson, N. J. Adv. May 3.	May 3
May 21.	San Jose, Cal.	May 3

STREETS AND ROADS

May 5.	Coquille, Ore.	Apr. 26
May 7.	Fayetteville, W. Va. Adv. Apr. 12	Apr. 19
May 7.	Mountain City, Tenn.	Apr. 19
May 7.	Indiana	Apr. 19
May 7.	Bakersfield, Cal.	Apr. 26
May 7.	Morgantown, W. Va.	Apr. 26
May 7.	Spearfish, S. D.	Apr. 26
May 7.	Brookhaven, Miss.	Apr. 26
May 7.	Holbrook, Ore.	Apr. 26
May 7.	Indiana	Apr. 26
May 7.	Northampton Heights, Pa. Adv. Apr. 19 and 26.	Apr. 26
May 7.	Tavares, Fla.	May 3
May 7.	Perth Amboy, N. J.	May 3
May 7.	Ypsilanti, Mich.	May 3
May 7.	Newark, N. J.	May 3
May 7.	Elizabeth, N. J.	May 3
May 7.	Madison, Wis.	May 3
May 7.	Lisbon, N. J.	May 3
May 7	St. Milachie D. Ormstown, Que.	May 3
May 8.	Vincennes, Ind. Adv. Apr. 19 and 26.	Apr. 19
May 8.	Wenatchie, Wash.	Apr. 19
May 8.	Bloomfield, Ind.	Apr. 19
May 8.	Roxboro, N. C.	Apr. 19
May 8.	Pickens, S. C.	Apr. 19
May 8.	Port Orchard, Wash.	Apr. 26
May 8.	Shelton, Wash.	Apr. 26
May 8.	Bound Brook, N. J. Adv. Apr. 26 and May 3.	Apr. 26
May 8.	Indiana	Apr. 26
May 8.	South Bend, Wash.	May 3
May 8.	Hartford, Conn	May 3
May 8.	Bayonne, N. J.	May 3
May 9.	Indiana	Apr. 26
May 9.	Albion, Mich. Adv. Apr. 26 and May 3.	Apr. 26
May 9.	Indianola, Ill.	May 3
May 9.	Mays Landing, N. J.	May 3
May 9.	Providence, R. I.	May 3
May 9.	Jersey City, N. J.	May 3
May 9.	Illinois	May 3
May 9.	New Orleans, La.	May 3
May 9.	New York, N. Y.	May 3
May 9.	Jersey City, N. J.	May 3
May 9.	Providence, R. I.	May 3
May 9.	Hackensack, N. J.	May 3
May 10.	Texarkana, Ark. Adv. Apr. 26 and May 3.	Apr. 26
May 10.	Indiana	Apr. 26
May 10.	Augusta, Ga. Adv. Apr. 19 and 26.	Apr. 26
May 10.	Newark, N. J.	May 3
May 10.	Beaufort, S. C.	May 3
May 11.	Elizabeth, N. J.	May 3
May 11.	Trenton, N. J.	May 3
May 11.	Bluefield, W. Va.	May 3
May 11.	Roselle, N. J.	May 3
May 11.	Bryan, O.	May 3
May 12.	Indiana	Apr. 26
May 12.	Quincy, Ill.	May 3
May 14.	Olean, N. Y. Adv. Apr. 26.	Apr. 26
May 14.	Indiana	Apr. 26
May 14.	Oil City, Pa. Adv. Apr. 19 to May 3.	Apr. 19
May 14.	Eutaw, Ala. Adv. Apr. 26.	Apr. 26
May 14.	Bangor, Me.	Apr. 26
May 14.	Watervliet, N. Y. Adv. Apr. 26 and May 3.	Apr. 26
May 14.	Olympia, Wash.	May 3
May 14.	Kalamazoo, Mich. Adv. May 3.	May 3
May 14.	Palisade Park, N. J.	May 3
May 15.	Michigan City, Ind	May 3
May 15.	Baltimore, Md. Adv. May 3.	May 3
May 16.	Eldon, Ia.	May 3
May 16.	Paterson, N. J.	May 3
May 16.	Foster, R. I. Adv. May 3.	May 3
May 17.	Jersey City, N. J.	May 3
May 17.	Pocatello, Idaho	May 3
May 18.	Summer, Miss. Adv. May 3.	May 3
May 22.	Newark, O.	Apr. 26
May 24.	Wellsburg, W. Va.	May 3
May 26.	Alexandria, La.	May 3
May 28.	Bartow, Fla.	May 3
May 29.	Port Clinton, O.	May 3
May 30.	Lenoir, N. C. Adv. Apr. 26.	Apr. 26

EXCAVATION AND DREDGING

May 10.	Ft. Dodge, Ia.	May 3
May 11.	Algona, Ia.	May 3
May 12.	Owatonna, Minn.	May 3
May 15.	Trenton, N. J. Adv. Apr. 19 to May 3.	Apr. 19
May 15.	Cape Girardeau, Mo.	May 3
May 15.	Muscatine, Ia.	May 3
May 16.	Vale, Ore.	Apr. 26
May 31.	Schuyler, Neb.	Apr. 26
May 29.	Albany, N. Y. Adv. May 3.	May 3

BUILDINGS

May 5.	Lewistown, O.	May 3
May 7.	New York, N. Y.	May 3
May 8.	Akron, O.	May 3
May 10.	Kingman, Kan.	Apr. 26
May 10.	Sioux City, Ia.	May 3
May 11.	Gallon, O.	Apr. 26
May 11.	Portsmouth, O.	May 3
May 14	Asbury Park, N. J.	Apr. 26
May 14.	Paterson, N. J.	May 3
May 15.	Fulton, Mo.	Apr. 26
July 15.	Kansas City, Mo.	Apr. 26
May 15.	Buffalo, N. Y.	May 3
May 16.	Amsterdam, N. Y.	May 3
May 19.	Hartford, Conn.	May 3
May 21.	Newark, N. J.	May 3
May 22.	Lake Andes, S. D.	May 3
May 24.	Tulsa, Okla.	May 3
May 26.	Columbus, O. C.	Apr. 26
May 30.	Urbana, Ill. Adv. Apr. 26.	Apr. 26

FEDERAL GOVERNMENT

May 7.	New Orleans, La.	May 3
May 7.	Ft. Mifflin, Pa., (Phila. P. O.).	May 3
May 7.	Washington, D. C.	May 3
May 10.	Port Huron, Mich.	May 3
May 14.	St. Louis, Mo.	May 3
May 23.	New Orleans, La. Adv. May 3.	May 3
May 24.	Washington, D. C.	May 3
May 31.	Bemidji, Minn.	May 3
May 31.	Durant, Okla.	May 3
May 7.	Beaver Dam, Wis.	Apr. 5
May 7.	Pearl Harbor, Hawaii	Apr. 5
May 7.	Ft. Caswell, N. C. Adv. Apr. 12 to 26.	Apr. 19
May 7.	Ft. Mifflin, Pa.	Apr. 19
May 7.	New Orleans, La.	Apr. 19
May 7.	Cape Henry, Va. Adv. Apr. 19 and 26.	Apr. 26
May 7.	Pensacola, Fla.	Apr. 26
May 7.	Indian Head, Md.	Apr. 26
May 7.	Duluth, Minn. Adv. Apr. 26 and May 3.	Apr. 26
May 8.	New York, N. Y. Adv. Apr. 26 and May 3.	Apr. 26
May 8.	Media, Pa.	Apr. 12
May 9.	Kansas City, Mo. Adv. Apr. 26 and May 3.	Apr. 19
May 9.	San Pedro, Cal.	Apr. 26
May 9.	Washington, D. C. Adv. Apr. 26.	Apr. 26
May 10.	Detroit, Mich. Adv. Apr. 19 to May 3.	Apr. 19
May 10.	Nogales, Ariz.	Apr. 26
May 11.	Boise, Idaho	Apr. 5
May 11.	Cleveland, O. Adv. Apr. 19 to May 3.	Apr. 19
May 12.	Ft. Benj. Harrison, Ind. Adv. Apr. 19 and 26.	Apr. 26
May 14.	Baltimore, Md. Adv. Apr. 12 to May 3.	Apr. 26
May 14.	Key West, Fla. Adv. Apr. 26.	Apr. 26
May 14.	Vallejo, Cal.	Apr. 26
May 14.	New Orleans, La.	Apr. 26
May 15.	Bolinas, Cal. Adv. Apr. 5.	Apr. 5
May 16.	Fitzgerald, Ga. Adv. Apr. 12.	Apr. 19
May 16.	Athens, Tenn. Adv. Apr. 12.	Apr. 19
May 17.	Sault Ste. Marie, Mich. Adv. Apr. 19 to May 3.	Apr. 26
May 17.	Cedar Falls, Ia.	Apr. 12
May 18.	Santa Fe, N. M.	Apr. 26
May 18.	El Paso, Tex.	Apr. 19
May 19.	Washington, D. C. Adv. Apr. 26.	Apr. 26
May 21.	Vallejo, Cal.	Apr. 26
May 21.	Cleveland, O. Adv. Apr. 19 to May 3.	Apr. 26
May 21.	Wilmington, Del. Adv. Apr. 12 to May 3.	Apr. 26
May 21.	Kansas City, Mo. Adv. Apr. 26 and May 3.	Apr. 26
May 23.	Garfield, N. M. Adv. Apr. 26.	Apr. 26
May 23.	Montgomery, Ala. Adv. Apr. 26 and May 3.	Apr. 26
May 24.	Indiana, Pa.	Apr. 26
May 25.	Washington, C. H. O.	Apr. 26
May 28.	Jasper, Ala. Adv. Apr. 19 and 26.	Apr. 26
May 29.	Southbridge, Mass. Adv. Apr. 19 and 26.	Apr. 26
May 29.	Berwick, Pa. Adv. Apr. 26 and May 3.	Apr. 26
May 30.	Ft. Michie, N. Y. Adv. Apr. 26 and May 3.	Apr. 26
June 5.	Olney, Ill.	May 3
June 6.	Orange, Tex	May 3
June 7.	Marion, Ill	May 3

MISCELLANEOUS

May 7.	Levee—Pine Bluff, Ark.	Apr. 5
May 8.	Incinerator. New Brunswick, N. J.	Apr. 26
May 9.	Ballast. New York, N. Y.	Apr. 26
May 17.	Turbine & Generator. Rockport, Ill.	Apr. 26
June 1.	Wharf—Richmond, Va.	Apr. 19
May 11.	Park Work. Philadelphia, Pa.	May 3
May 16.	Station Finish, Brooklyn, N. Y.	May 3
May 18.	Heating Work, Hudson, N. Y. Adv. May 3	May 3
May 18.	Heating Work, Newark, N. Y. Adv. May 3.	May 3
May 18.	Retaining Wall, Cincinnati, O.	May 3

WATER-WORKS

Proposed Work

Mass., Boston—City preparing plans 1-story, 1,200-ft high-pressure pumping station, Commercial St. and Copp's Hill Terrace and will lay 1-mi. high-pressure pipe. G. F. Finneran, supt.

Conn., Hartford—Bd. Water Comrs. will soon let contracts laying about 28,000 ft. 42-, 36-, 30- and 24-in. pipe.

N. J., Newark—North Jersey Dist. Water Supply Comn., plans developing and extending Wanaque watershed. Estimate $8,560,000. M. R. Sherrerd, cons. engr.

Pa., Mohnton—Mohnville Water Co. will soon let contract for filtration plant, slow sand 500,000 gal. capacity. Cost $40,000. W. H. Dechart & Son, 529 Court St., Reading, cons. engr.

S. C., Lake City—See "Sewers."

Fla., Branford—City considering installation of water-works system.

Fla., New Smyrna—City voted $10,000 bonds for water-works. H. E. Zippers, mayor.

Fla., Perry—See "Sewers."

La., Bossier City—City voted $30,000 bonds for water-works system.

Tenn., Knoxville—City Comn. to call election July 5 to vote on issuing $600,000 bonds for water streets and sewer extensions in new territory, $100,000 for improvements in 4 former suburban municipalities and $100,000 for Knoxville general hospital.

Tenn., Manchester—City plans to issue $27,000 bonds for water-works.

O., Akron—City to hold election soon to vote on bonds to build new pumping plant to enable plant at Kent to increase capacity from 20,000,000 to 30,000,000 gal. Cost, $2,000,000. H. Frost, supt.

O., Cincinnati—Chillicothe Water Co. plans large tower on Carlisle Hill.

Kan., Mankato—City plans water-works improvements. Cost, $30,000. G. P. Taylor, Stockton, engr.

N. D., Cooperstown—City rejected bids for 15,000 ft. 8- and 12-in. mains. Work postponed indefinitely. G. B. Edmonson, city aud.

Mont., Livingston—Council authorized to issue $225,000 bonds for water-works. E. C. Riss, city engr.

Mo., Fredericktown—City plans to install water-works. Cost, $60,000.

Ark., Piggett—City plans to install water-works system. Cost, $40,000. A. C. Moore, Joplin, Mo., engr. J. M. Meyers, comr.

Tex., Austin—City voted $600,000 bonds for water improvements. E. C. Bartholomew, supt.

Tex., Celina—Reported city plans to rebuild water-works and electric-light plant recently destroyed by fire; loss, $20,000.

Tex., Cooper—City will soon let contract for water-works. Cost, $50,000.

Okla., Ada—(Official)—City plans election to vote on $60,000 bonds to improve water supply and system, including new rein.-con. flume for water-power plant and 500,000-gal. elevated tank. Benham Engr. Co., Colcord Bldg., Oklahoma, engr.

Okla., Oklahoma—City soon lets contract for clear well at pumping station. About $75,000. C. E. Semmelback, clk.

Okla., Tahlequah—City soon lets contract for water-works improvements. Cost, $30,000. E. B. Murray, 920 Walnut St., Kansas City, Mo., engr.

Okla., Woodsville—City plans to issue $15,000 bonds for water-works.

Ore., Richland—City voted $20,000 bonds for water-works system. Contracts will soon be let.

Cal., Los Banos—City plans to install water-works system. Cost, $30,000. Olmsted & Gillelen, Hollingsworth Bldg., Los Angeles, engrs.

Bids Desired

N. Y., New York—Until May 8 by W. Williams, comr. water supply, gas and electricity, Municipal Bldg., furnishing and delivering chloride of lime and chlorine gas, Manhattan and Bronx boros.

N. Y., New York—Until May 9 by M. M. Marks, boro. pres., alteration of receiving basins with inlets at northwest and southwest corners of 59th St. and 1st Ave., 1st and 2nd Ave. and 86th St., 63rd St. from Park to 5th Ave. and 149th St. from St. Nicholas Ave. to Bway.

N. J., Ogdensburg—(Official)—Until May 14 to W. N. Harris, boro. clk., installing water-works; advertised in this issue.

Md., Mt. Rainier—See "Sewers."

O., Cincinnati—Until May 7 by W. L. Taylor, city aud., for purchase of $990,000 bonds for water and light extensions.

O., East Palestine—Until May 8 by O. L. Butts, village clk., for purchase of $20,000 bonds for water-works improvements.

Ia., Milton—Until May 14 by J. C. Forbes, mayor, for water-works. Cost, $18,000.

Minn., Staples—See "Reinforced Concrete."

N. D., La Moure—Until May 7 by B. W. Loppnow, city aud., for constructing water-works system.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Mass., Spencer**—City let contract laying 2 sections water mains to D. D. Pietro, Boston, $26,725.

★**N. Y., Batavia**—City let contract filtration plant and power house to H. H. Edgerton, Bldrs. Exchange Rochester, $25,000.

N. Y., Lockport—Bd. Supervs. received low bid pipe line about 1 mi. long, from Queen City Constr. Co., Buffalo, $11,34?

N. Y., New York—(Official)—Dept. Water Supply, Gas & Electricity received low bids furnishing, delivering, unloading stacking and storing special castings, valves, boxes, etc., from J. Fox & Co., 253 Broadway, $23,460.

O., Mansfield—City received low bids installing pumps in main pumping station from Skeldon Engr. Co., 125 Ames Ave., Toledo, incomplete, $20,228, Luitweiler Pump Co., Rochester, $20,665, Dravo-Doyle Co., 927 Citizens Bldg., Cleveland, incomplete, $28,680.

★**O., New London**—City let contract to H. Martin, 155 Richardson Ave., Columbus, laying 4.6 mi. c.-i. pipe, National Co., South Bend, Ind., 2.4 mi. 8-in. wood pipe, 29c. per ft.; Michigan Pipe Co., Bay City, wood pipe, 70c. per ft.

★**Mich., Detroit**—(Official)—Bd. Water Comrs. let contract furnishing 25,400 meters of various sizes to Gamon Meter Co., 282 South St., Newark, N. J., $209,880.

★**N. D., Cooperstown**—City let contract installing water-works at $58,500, and sewers at $26,361 to Scruth & Jackson, Fargo.

★**N. D., Jamestown**—See "Sewers."

★**Ark., Walnut Ridge**—City let contract water and sewerage system to Moreno-Burkham Constr. Co., Syndicate Terminal Bldg., St. Louis, $75,000.

★**Tex., Higgins**—City let contract water system to Merkle-Hines Machinery Co., 508 Interstate Bldg., Kansas City, Mo., $23,475.

Okla., Oklahoma—City Comrs. received low bids for clear storage basin at water pumping station as follows: Holmboe Constr. Co., 311-15 Majestic Bldg., $59,900; Bent Bros., 607 South Main St., Los Angeles, $93,500; Smedley Constr. Co., Oklahoma, $78,100.

★**Utah, Salt Lake City**—City let contract water main extensions to J. P. Moran Co., 152 W. 2d St., $91,613.

★**Wash., Spokane**—City let contract 5000 Worthington water meters to Coast Pump and Machinery Co., L. C. Smith Bldg., Seattle, $12,500.

★**Que., Three Rivers**—City made plans and will install new water-works to include aqueduct system, driving of artesian wells and concrete reservoir. Work to be done by day labor.

SEWERS

Proposed Work

N. Y., Le Roy—City plans to install sewer system. Cost $218,000. J. P. Wells, engr.

Pa., Allentown—City purchased 460-acre site about 2 mi. from here for sewage-disposal plant. Estimate $2,000,000. C. D. Weisbach, city engr.

Pa., Cheltenham—Town plans election to vote on $625,000 bonds to install sewerage system and sewage-disposal plant.

Pa., Reading—See "Streets and Roads."

W. Va., Summerville—City plans to install sewage-disposal plant under supervision of State Health Dept. Cost, $15,000.

S. C., Lake City—City plans to install sewerage system and water-works. Cost $15,000. J. Newton Johnson, Florence, engr.

Fla., Perry—City election May 15 to vote on $20,000 bonds for sewers and water mains. Address Mayor.

Tenn., Knoxville—See "Water-works."

Ky., Owensboro—City sold $225,000 bonds for sewers. H. Talbother, supt.

O., Massillon—H. E. McYost, city engr., estimates cost of installing sanitary sewer in Mill St. at $11,000.

O., Piqua—Council passed ordinance for sanitary sewer in Boal Ave., together with manholes, laterals, etc. J. M. Lloyd, city clk.

Ind., Indianapolis—Bd. Pub. Wks adopted resolution to build sewer in West 10th St. About $90,000. B. J. T. Jeup, city engr.

Minn., Minneapolis—City plans installing about 14 mi. sewers by day labor. Cost, $536,000. F. W. Cappelen, city engr.

Minn., St. Paul—City plans to install sewer in portion Snelling Ave. O. Claussen, city engr.

Neb., Blair—City defeated $21,000 bonds to install sewers.

Wyo., Casper—City election May 16 to vote on $110,000 bonds for sewers.

Wyo., Guernsey—City sold $11,000 bonds to install sewers.

Ark., Harrison—City plans sewer improvements to include 8000 ft. 8-in. clay pipe, also septic tank. Cost $10,000. A. C. Moore, Frisco Bldg., Joplin, Mo., engr.

Tex., Graham—Property owners voted $25,000 bonds for sewerage system and disposal plant.

Okla., Atlas—City plans to install sewage-disposal plant. Bonds for $15,000 recently voted for work. Benham Eng. Co., Colcord Bldg., Oklahoma, engrs.

Okla., Commerce—City plans to install sewerage system involving about 34,200 ft. 8- to 15-in. pipe. Cost, $40,000.

Okla., Okemah—(Official)—City plans election to vote on $55,000 bonds to build sewer system and $20,000 to improve electric-light plant Benham Engr. Co., Colcord Bldg., Oklahoma, engr.

Okla., Yale—City plans to install sewerage system. Cost, $30,000.

Idaho, Rexburg—City passed ordinance for creating Sewer Improv. Dist No. 1. Cost, $50,000.

Ariz., Flagstaff—City sold $60,000 bonds to extend sewer system. A. A. Johnson, clk.

Wash., Spokane—M. Macartney, city engr., estimates cost of downtown intercepting sewer at $135,000.

Ore., Astoria—City plans to spend $250,000 for paving and $50,000 for sewers during year. Contract will soon be let. G. T. McLean, city engr.

Cal., Modesto—City defeated bonds to improve streets and sewers and extend water system.

Cal., National City—City having plans prepared for sewerage system requiring about 18,500 ft. 6- to 12-in. pipe.

Cal., San Luis Obispo—City voted $10,000 bonds to install sewers.

Bids Desired

N. Y., Brooklyn—Until May 16 by L. H. Pounds, boro. pres., sewers in portions of Ralph and Paerdegat Ave. Engineers' estimate, $588,436.

Pa., Phila.—Until May 8 by Dept. Pub. Health, for liquid chlorine apparatus for sewage-disposal plant at Byberry Hospital. W. Krusen, dir. P. H. Johnson, Land Title Bldg., archt.

Md., Mt. Rainier—(Official)—Until May 25 by P. J. Hagen, town clk., about 10 mi. sanitary sewers, 10 mi. water mains, water-work pumping station and steel tank and tower; advertised in this issue.

Ill., Grosse Pointe—Until May 7 by Pres. Bd Local Improv. for system of sanitary sewers.

Ill., Winnetka—Until May 10, by Pres. Bd Local Improv. for system of vit. tile and rein. portland cement concrete sewers in portions of Elder, Lane, Sheridan Rd., Willow and other streets.

Neb., Ogalalla—Until May 7 by City for lateral sewers in Dists. A, B, C, D, E and F. V. E. Warren, clk.

Tex., La Grange—Until May 9 by Mayor and City Council installing sanitary sewage-disposal plant. E. Mattingly, secy.

Ariz., Jerome—Until May 14 by city for purchase of $40,000 bonds for sewers.

Prices and Contracts Awarded

(★Indicates award of contract)

N. Y., Cohoes—Bd Contract & Supply received low bids 3 electrically driven pumps 1,000,000 and 6,000,000 gals. capacity to take place of hydraulic pumps as follows: Turbine Equipment Co., New York City, $13,800; American Well Wks., 95 Liberty St., New York City, $13,300; Worthington Pump & Machinery Corp., 115 B'way, New York City, $14,400.

N. Y., New York—M. M. Marks, boro. pres., received low bid receiving basins with inlets in portions of 3d Ave., from 61st to 79th St., from Riley Contr. Co., 150 Nassau St., $10,517.

★**N. Y., Niagara Falls**—City let contract sewer on Buffalo Ave. to Donnelly, Graham & Gibbons Co., Cleveland, West 30th St., $95,718.

★**Pa., Clifton Heights**—City let contract sewers to A. C. Shand, Jr., 15th and Market Sts.

★**Pa., Lebanon**—City let contract storm sewers to Mangan & Pugh, Gregory Bldg., Pottsville, Prop. A, $124,225, Prop. B, $102,641.

★**Pa., Phila.**—Geo. E. Datesman dir. pub. wks., let contract sewage disposal plant to J. S. Shanley Co., 15th and Market Sts.

Sewers (Continued)

★**Pa., Phila.**—(Official)—Dept. Pub. Wks. let contract grit chamber, Lycoming St., including outlet sewers, incinerator, etc., to J. F. Shanley Co., Commercial Trust Bldg., $122,751.

★**N. C., Beaufort**—C. H. Bushall, city clk., let contract sewers and laying water pipes to Mishler & Flynn, 105 Spruce St., Chattanooga, Tenn.

★**N. C., Winston-Salem**—City let following sewer contracts: Sect. 1, 17 mi., to Dabbs & Myers, Meridian, Miss., $67,392; Sect. 2, 10½ mi., W. M. Wilkes Co., Durham, $41,400; Sect. 3, 14½ mi., Blankenship & McClelland, Charlotte, $49,958.

Ky., Louisville—Bd. Pub. Wks. received low bids installing sewers between Chestnut and Pennsylvania Aves. to cost $15,000 and portion Payne St., cost, $2500, from H. Bickel Co., 443 Garden St.; G. M. Eady Co., Brook between A and Lee St.; J. H. Cahill, 1415 6th St., and K. A. Barker.

★**O., Bexley**—Village Council let contract sewers to Cleveland Trinidad Paving Co., 140 Lakeside Ave., Cleveland, and S. T. Knight, 487 Oak St., Columbus.

★**O., Cleveland**—Bd. Control let contract sewer in London Rd. (Plan A), to J. Gallagher, 1270 Fry Ave., $57,534; Benham and Revere Sts. to Brookside Constr. Co., 3305 W. 20th St., $10,266; E. 116th and Craven Sts., to D. Zullo, 10501 Hudson Ave., $16,345.

★**O., Conneaut**—See "Streets and Roads."

★**O., Youngstown**—City let contract Shady Run sewer to C. Harris, $21,945

★**Mich., Grand Rapids**—Bd. Pub. Wks. let contract Silver Creek sewer system to John Vander Zwart, $36,803.

★**Ill., Cambridge**—City let contract 24,659 ft. sewer trench and disposal plant to Pub. Serv. Comn. Co., Omaha, $28,518.

★**Ill., Waukegan**—City let contract sewers on several streets to J. M. Donahue, $5047; sewer in Sand St. to Lee McDonough, $5628.

★**Wis., Eau Claire**—City let contract sewerage system to Cast Stone Constr. Co., Eau Claire, $19,678.

★**Ia., Tama**—City let contract installing sewers to T. Carey, 106 Weston Bldg., Clinton, $10,000.

★**Neb., Omaha**—City let contract installing sewers in several districts to A. F. Hanson, 4701 Franklin St., $17,625.

N. D., Cooperstown—See "Water-Works."

N. D., Jamestown—City let contract sewers and water mains to W. Danforth, St. Paul, about $45,000.

★**Mont., Boseman**—See "Streets and Roads."

★**Mo., Carthage**—City let contract installing sewers to Lynch-McDonald Constr. Co., Moberly, $24,034.

Ark., Walnut Ridge—See "Water-Works."

★**Okla., Broken Arrow**—City let contract installing sanitary sewers to J. T. Lantry, Tulsa, $26,061.

★**B. C., Vancouver**—City let contract Beach Ave. sewer to Hodgson & King, Vancouver, $29,504. Noted Apr. 26.

STRUCTURAL STEEL WORK

Proposed Work

Me., Perry—Town plans steel and cement bridge over Little River to replace wooden one. About $12,000.

N. Y., Tonawanda—See "Railways."

N. J., Sea Isle—Bd. Freeholders soon lets contract 3 bridges consisting of creosoted wooden block trestle piling and 1 double lift, Strauss bascule steel bridge over main channel. About $134,000. Address Co. Clk., Cape May.

Pa., Butler—Boro. soon receives bids viaduct over South Main St. W. D. Uhler, Harrisburg, ch. engr.

Pa., Lewistown—Pennsylvania R.R. plans 5-span bridge over Juniata River. A. C. Shand, Broad St. Sta., Philadelphia, ch. engr.

O., Cincinnati—See "Streets and Roads."

O., Eaton—City plans to build 2 steel bridges, 1 on Franklin Rd. near James Kautz, and 1 on New Paris and Eldorado Rd., Jefferson Twp.

Wis., Green Bay—(Official)—City rejected bids for bridge gates over Fox River at various points. W. L. Kerr, Clk.

Ia., Des Moines—City receiving bids about May 20 viaduct over Des Moines River on North St., approaches to be 1000 ft. long. Cost, $600,000. K. Kastberg, city engr.

Minn., Minneapolis—See "Reinforced Concrete."

Idaho, Silver City—County plans election to vote on $55,000 bonds to build bridges.

Bids Desired

N. Y., Brooklyn—Until May 10 by F. J. H. Kracke, comr. plant and struct., Municipal Bldg., New York City, temporary bridge over Sheepshead Bay.

N. J., Elizabeth—Until May 11 by Bd. Freeholders, new plate girder bridge, 77-ft. spans, 50-ft. wide, concrete abutments over Rahway River. J. L. Bauer, co. engr.

N. J., Morristown—Until May 7 by Bd. Freeholders for repairing Keep St. bridge. F. S. Smith, engr.

N. J., New Brunswick—Until May 7 by Bd. Freeholders, repairing fenders of Amboy Bridge over Raritan River. A. B. Fox, co. engr.

N. J., Toms River—Until May 5 by Bd. Freeholders Ocean and Monmouth Cos. repairing Manasquan River Bridge. G. D. Cooper, Red Bank, co. engr.

Pa., Harrisburg—Until May 8 by Bd. of Comn. of Pub. Grounds, State Capital Bldg., for bridge on Cambridge Springs Rd., Crawford Co. T. A. Gilkey, engr.

Pa., Meadville—(Official)—Until May 7 by Bd. Superv. for I-beam bridge over Teaple Run, Richmon Twp. W. F. Goldfinch, R. D. No. 1, Cambridge Springs, secy.

Pa., New Castle—(Official)—Until May 16 by Co. Comrs., building 3 bridges; advertised in this issue.

La., Alexandria—See "Streets and Roads."

O., Cleveland—Until May 8 by City for 3800 tons structural steel for use in erecting public hall. R. Hoffman, city engr.

Illinois—(Official)—Until May 9 by State Highway Comn., Springfield, for 10 bridges in Wayne Co., Sec. C, Fairfield, Golden and Wayne Twps., $5420; 7 bridges, Sec. D, Cisne, Rinard and Xenia Twps., $4610.

Neb., Nelson—See "Reinforced Concrete."

Ariz., Clifton—(Official)—Until May 28 by Bd. Supervs, steel arch bridge across Gila River; advertised in this issue.

Wash., Olympia—See "Streets and Roads."

Prices and Contracts Awarded

(★Indicates award of contract)

Mass., Boston—City received low bids rebuilding Brookline Ave. bridge over Boston & Maine tracks from M. Meehan, 24 Hopedale St., Jamaica Plain, $46,000. Noted Apr. 19.

★**Mass., Plymouth**—County let contract Union Bridge over North River between Marshfield and Norwell to Goff & Wells Constr. Co., Lawrence, $30,000. Noted Apr. 19.

★**N. J., Newark**—County let contract Belleville Bridge over Second River to Lindi & Griffith Co., Ft. 4th Ave., $25,425.

★**Illinois**—(Official)—State Highway Comn., Springfield, let contract bridges to Illinois Steel Bridge Co., Jacksonville, $14,675 Noted Apr. 12.

★**Ia., Marion**—(Official)—County let contract 4 concrete I-beam bridges and 2 pony truss bridges to P. Payne, Cedar Rapids, $16,560; 1 50-ft. pony truss bridge to Waterloo Constr. Co., Waterloo, $4050; 1 7 x 7 box culvert to Mills & Henderson, Central City, $1249; 2 box culverts to J. Wiley, Cedar Rapids, $2350; 2 I-beam bridges to A. P. Munsen, Marion, $3799. Noted Apr. 19.

★**Neb., Geneva**—County let contracts cement bridges as follows: 7 to F. N. Craven; 4 to J. W. Kempf, Shickley; 2 to Elkhorn Constr. Co., Fremont. About $13,685. Noted Apr. 26.

★**Mo., Kansas City**—City let contract viaduct on 27th St. to McMillan Constr. Co., Old Colony Bldg., Chicago, $90,000.

★**Wash., Seattle**—City let contract substructure for Eastland Ave. bridge over Lake Washington Canal to Booker, Kiehl & Whipple, Central Bldg., Seattle, $213,000.

REINFORCED-CONCRETE

Proposed Work

N. Y., Elmira—County plans concrete bridge over Chemung River on Main St. About $160,000. T. A. Brown, city engr.

N. J., Ocean City—Meadowbrook Hotel Co. plans, 14-story, 207 x 207-ft., rein.-con. and steel hotel. About $125,000. J. O. Stevens, Chicago, archt.

O., Cincinnati—Terminals, Etc.—Cincinnati, Lebanon & Northern Ry. and Norfolk & Western Ry. will build group of terminal buildings, Court and Gilbert Ave. Plans include concrete freight sheds, 900 ft. long, and 3-story office. F. M. Crowell, Cincinnati, ch. engr. M. W. of former company.

Minn., Minneapolis—Y. M. C. A. plans 12-story, rein.-con. and steel building, 9th St. and Mary Pl. About $600,000. Long, Lamoreaux & Long, archts., 830 Hennepin Ave., Minneapolis, and Shattuck & Hussey, assoc. archts., 49 South La Salle St., Chicago, prepared plans.

Ore., Portland—Frazier & McLean having plans prepared by Sutton & Whitney, archts., Lewis Bldg., for 3-story, 100 x 100-ft. rein.-con. garage. About $50,000.

Cal., San Diego—(Official)—City Council sold $682,000 bonds for rebuilding Lower Otay dam, rein.-con. M. M. O'Shaughnessy, 2732 Vallejo Ave., San Francisco, supt. and cons. engr. Noted Apr. 19.

Cal., Santa Ana—City prepared plans rein.-con. bridge over Santiago Creek on North Main St. About $30,000.

Que., Dorval—Town Council retained Dupont, Roy and Baudouin, engrs., 225 St. James St., Montreal, to prepare plans 200-ft. rein.-con. tunnel. About $50,000.

B. C., New Westminister—Council approves plans permanent approach to Fraser River Bridge, including 40-ft. concrete wall. About $16,000.

Bids Desired

N. Y., Albany—(Official)—Until May 29 to W. W. Wotherspoon, state supt. pub. wks. Capitol, Barge Canal Work, Contract "P," Cayuga and Seneca Canal, Sec. 1, concrete cut-off walls below walls of Lock No. 3, Senaca Falls, $76,41[illegible] Contract No. 144, Erie Canal, Sec. 9, 2 concrete bridges over Red Creek, Genessee Valley Park, Rochester, $41,480; Terminal Contract No. [illegible] barge canal terminal near East 138th St., Bronx Boro., $170,300; advertised in this issue.

N. J., Paterson—Until May 16 by Bd. Freeholders for 3-span rein.-con. bridge over Passaic River on Newark and Pompton Turnpike. About $60,000. A. Ferguson, co. engr.

N. J., Trenton—Until May 8 by Bd. Freeholders for rein.-con. culvert bridge over stream on Federal City Rd. J. McCullough, dir. dept. bridges.

Va., Louisa—(Official)—Until May 12 by Bd. Superv. for rein.-con. bridges over South Anna River at Morris Ford and Near West Mill's, 81.9-ft. long and 12-ft. wide and 71.9-ft. long and 12-ft. wide, respectively.

Fla., Bartow—See "Streets and Roads."

O., Cincinnati—Until May 10 by Bd. Park Comrs., 2005 Gilbert Ave., rein.-con. swimming pool, excavation, cement walk, vitr. drains, inlets and galvanized water pipes. C. H. Meeds, executive officer.

O., Youngstown—Until May 7 by F. H. Vogan, co. clk., building 225-ft. rein.-con. or masonry bridge over Dry Run on Oak St. Rd., also grading approaches, 40,000 cu.yd.

Minn., Staples—Until May 8 by city for 200,000-gal. concrete reservoir. E. W. Findsen, clk

Neb., Nelson—Until May 8 by W. C. Hall, co. clk., building concrete or steel bridge, 3 mi. north here.

N. D., Linton—Until May 7 by County furnishing concrete culverts during 1917.

Ore., Portland—Until May 11 by Co. Comrs. for 2 rein.-con. bridges Nos. 8 and 9 on St. Helens Rd., including 250 cu.yd. class A concrete in superstructure, 60 sq.yd. in foundation, 20,000 lb. reinforcing steel, 160 lin.ft. railing, 360 cu.yd. foundation excavation.

California—(Official)—Until May 14 by California Highway Comn., 515 Fornum Bldg., Sacramento, bridge and road work as follows: Siskiyou Co., 3 rein.-con. bridges over Little Castle, Greenhorn and Yreka Creeks, 84- 60- and 42-ft. respectively.

Solano Co. paving 3.46-mi. road from westerly boundary to Cordelia, Portland cement concrete.

Alameda Co., paving 3.2-mi. road from Santa Rita to Dublin, Portland cement concrete.

Santa Barbara Co., grading 2.9-mi. from Las Crues to Gaviota Pass.

Los Angeles Co., paving 4.1-mi. from Castaic to Castaic School, Portland cement concrete.

A. B. Fletcher, highway engr.

Calif., San Jose—Until May 21 by H. A. Pfister, co. clk., rein.-con. girder-bridge, near Wright Station, two 40-ft. and 20-ft. spans, also one 40-ft. rein.-con. slab bridge on Ross Ave.

Ont., Listowell—Until May 15 by W. R. Reynolds, clk., for 150,000 gal. concrete reservoir.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Conn., New Haven**—Yale University let contract rein.-con. tunnels, cement sheds, tool shed and work office in connection with new power plant and heating system to Sperry Eng. Co., 82 Church St., $85,000.

★**N. Y., Brooklyn**—National Lead Co., 111 Broadway, New York, let contract 3- and 4-story, rein.-con. factory to W. Kennedy Constr. Co., 215 Montague St., $100,000.

★**N. Y., Massena**—(Official)—Town let contract concrete-steel arch bridge over Grasse River to Cleveland & Sons Co., Brockport, $68,519. Noted Apr. 19.

N. Y., New York—(Official)—Dept. Parks received low bids concrete bulkhead along waterfront of Corlears Hook Park from P. J. Duffy, St. Ann's Ave. and 132d St., $31,213. Reinforced Concrete Engr. Co., 1547 B'way, $31,629; Snare & Triest Co., Woolworth Bldg., $344,483.

★**N. J., Elizabeth**—Weimar Storage and Trucking Co., 352 Elizabeth Ave., let contract 4-story, 50x92-ft., reinforced.-con. plant, West Grand St., to W. Clifford & Sons Co., 360 Union Ave.

★**N. J., Plainfield**—Niles-Bement-Pond Co., 929 South 2nd St., let contract 1-story, steel and concrete addition to H. E. Baton, 12th and Sansome St., Philadelphia, $75,000.

★**O., Warren**—County let contract rein.-con. bridge over Mahoning River on South Main St. to Hackedorn Constr. Co., Pythian Bldg., Indianapolis, $60,000.

Reinforced Concrete (Continued)

★**Ind., Indianapolis**—Oliver Chilled Plow Co. let contract rein.-con. warehouse to T. A. Moynahan, 910 South Pennsylvania Ave., $90,000, who sublet all rein.-con. work to C. J. Wacker, 207 Chamber of Commerce Bldg.

★**N. M. Gallup**—Atchison, Topeka & Santa Fe R. R. let contract 2-story, rein.-con. passenger station, eating house and hotel, also 42 x 44-ft. power house, to W. Simpson Constr. Co., 527 Marshall-Strong Bldg., Los Angeles, $155,000.

★**Ont., Chatham**—Libby, McNeill & Libby, U. S. Yards, Chicago, let contract rein.-con. factory to Hadley Co., 58 Thames St., Chatham, $400,000.

★**Ont., Ottawa**—C. Ogilvy, 126 Rideau St., let contract rein.-con. store building to C. Holbrook & Sons, 425 Somerset St., $50,000.

★**Ont., Toronto**—Hoyt Metal Co., 356 Eastern Ave., let contract concrete plant to L. E. Dowling, 167 Yonge St., $55,000.

STREETS AND ROADS

Proposed Work

Mass., Boston—City plans to improve Commonwealth Ave. About $80,000. E. F. Murphy, comr. pub. wks.

Mass., Williamstown—State Highway Comn., Boston, plans to build 1½-mi. state road in Williamstown.

R. I., Providence—State Bd Pub. Rds. soon lets contract road work in various townships as follows: 3 mi. Wickford to Saunderstown; 2 mi. Portsmouth; 1½ mi. Sakonnet Point Rd.; 3.6 mi. Wakefield; 1.6 mi. Warren and Bristol; 2 mi. Putnam Pike; 2 mi. Hartford Pike and 1 mi. New London Turnpike, all bituminous macadam; also for 1 mi. Taunton Ave., cement concrete, and 1 mi. Mendon Rd., bituminous concrete. I. P. Patterson, engr. Noted Apr. 12.

N. Y., Cortland—County plans to build 3-mi. Cortland-Marathon Rd. and 2-mi. Cortland-Gulf Rd. E. S. Dalton, clk.

N. Y., Northport—City plans to issue $40,000 bonds to pave streets.

N. Y., Poughkeepsie—County plans to build Quaker Hill Rd. A. C. Rapelje, co. engr.

N. J., Flemington—Village plans election to vote on $35,000 bonds to macadamize streets; plans include 16,000 sq.ft. paving North Main, Hopewell, Broad and Park Ave.

N. J., Newark—City plans to pave portion Sanford Ave., wood block. M. R. Sherrard, city engr.

N. J., Newark—City plans to pave Meeker Ave. and Peddie St. About $20,000 and $14,000, respectively. M. R. Sherrard, city engr.

N. J., Phillipsburg—Town Comn. appropriated $20,000 to improve streets.

N. J., West New York—Town plans to pave portion Bergenline Ave., asphalt blocks on 8-in. concrete foundation. C. Swenson, clk.

N. J., Woodbury—State Rd. Dept., Trenton, appropriated $60,000 to repair roads in Gloucester Co.

Pa., Reading—City to sell $200,000 bonds July 1 to improve streets, sewers, etc. E. Ulrich, city engr.

W. Va., Grafton—County plans to improve number of roads. J. A. Sinsel, co. engr.

W. Va., Parsons—County voted $150,000 bonds to improve roads in Fairfax Dist. and $60,000 for Dry Forks Dist.

N. C., Trenton—County plans to spend $25,000 to improve roads. D. W. Dudley, co. surv.

Miss., Tunica—County plans to spend $250,000 to build roads.

Tenn., Knoxville—See "Water-works."

O., Ashland—City plans to improve portion College Blvd. R. R. Conn, city engr.

O., Bryan—County to sell $333,400 bonds May 11 to improve roads in various townships. G. C. Beucler, co. aud.

O., Cincinnati—W. Boch, co. surv., submitted report estimating cost improving Wilmer and Hubble Rd. at $27,500, Hanley Rd., $10,000. Bids will soon be received.

O., Cincinnati—City Council authorized $150,000 bond issue for repair of streets, bridges, viaducts and culverts, also $107,600 issue for improvement of Jones and other streets. F. Krug, city engr.

O., East Liverpool—City plans to pave portions Bway. and Washington St. J. C. Kelly, city engr.

O., Lancaster—City plans to improve portion West Wheeling St. J. Griggs, city engr.

O., New Lexington—County plans to improve brick roads. P. L. Van Atta, clk.

O., Toledo—City plans $60,000 bond issue to resurface and repair streets. H. C. McClure, city engr.

Ind., Laporte—County plans 2 mi. 16-in. monolithic brick road.

Mich., Saginaw—City plans to pave portion 4th, Germania, Park and Washington Ave., also Hill, Maple, 7th, Ruby and Meredith St. H. H. Eymer, city engr.

Mich., Woodward—City preparing plans widening Woodward Ave. About $4,000,000. R. H. McCormick, city engr.

Ill., Freeport—C. Lindberry, co. engr., estimates cost paving 3 mi. Geneva Rd., 16-ft. paving, 24-ft. roadway, at $51,000. Noted Apr. 26.

Wis., Elkhorn—County plans to spend $100,000 to improve roads. G. D. Harrington, clk.

Wis., Shell Lake—County plans to spend $60,000 to improve roads. W. J. Knapp, co. surv.

Ia., Sumner—City rejected bids paving 31,000 yd. A. Wismer, clk.

Minn., Chaska—County plans to spend $50,000 to improve roads. D. Childs, co. engr.

Kan., Downs—City plans to pave portion Morgan Ave.

Kan., Topeka—County plans 16-ft. brick road, cement curb on concrete foundation, from Topeka to Lawrence. About $16,000 per mile.

Neb., Lincoln—City plans to issue $84,930 bonds to pave streets in 20 districts. A. Dobson, city engr.

Wyo., Meeteetse—Bd. Co. Comrs. plan election May 15 to vote on extra 2-mill levy tax to raise $16,000, State Highway Comn. to appropriate like sum, to build county roads.

Mont., Great Falls—Co. Comrs. appropriated $50,000 to pave portion Neihart Rd. J. E. Moran, clk.

Mont., Havre—Co. Comrs. plan to build system of roads to comprise about 1000 mi. main highways.

Mo., Webb City—City plans to improve streets. About $30,000. L. E. Briggs, city engr.

Mo., Webster Grove—City plans to lay 10,000 sq.yd. concrete pavement with curbs, etc., also 3 mi. combined curb and gutter. S. H. Bateswell, city engr.

Ark., Blytheville—City plans to spend $20,000 to pave streets.

Ark., McGehee—(Official)—Arkansas-Louisiana Highway Comn. will receive bids in about 60 days for 165-mi. highway from Louisiana state line to Grady and Dermott with branch to Arkansas City. Estimate, $1,800,000. M. E. Sherland, secy. Ford & MacCrea, Gazette Bldg., Little Rock, engrs. Noted Apr. 19.

Tex., Albany—Co. Comrs. will receive bids in May for purchase of $10,000 bonds for road work.

Tex., Childress—County plans to build 2 roads. R. G. Caraway, co. engr.

Tex., Haskell—County plans to build 100-mi. gravel road. H. M. Rike, co. engr.

Tex., Sonora—Co. Comrs. Court will hold election to vote on $85,000 bonds to build roads.

Okla., Antlers—County plans election to vote on $51,000 bonds to build roads in Antlers Twp. and $30,000 for roads in Koskma Twp.

Okla., Durant—County plans to spend $60,000 on roads and bridges during year. A. Stinson, co. engr.

Okla., Hydro—City voted $20,000 bonds for road work. Noted Apr. 5.

Okla., Mangum—City plans to pave 2½ mi. streets. F. Border, M.D., mayor.

Idaho, Boise—State plans to spend $15,000 on Natl. Park Highway between Bonners Ferry and Idaho-Montana state line, Boundary Co. Noted Apr. 5.

Ariz., Florence—County voted $150,000 bonds to build roads. W. W. Lane, co. engr.

Wash., Olympia—City plans to pave 15th, 17th and Sylvester St. and portion Water St. About $11,000.

Ore., Pendleton—City plans to pave Willow St. et al. and Madison St., gravel bitulithic. About $10,000.

Ore., Vale—County plans to gravel 10-mi. road. B. F. Farmer, co. engr.

Cal., Merced—Bd. Superv. plan election to vote on $1,000,000 bonds to build paved highways. P. T. Thornton, co. clk.

Cal., San Diego—City preparing plans and will receive bids in fall, paving 23 mi. Torrey Pines Highway. G. Cromwell, city engr.

Cal., Santa Barbara—City election June 26 to vote on $21,000 bonds for repairing East Blvd. highway and seawall. A. B. Cook, city engr.

Bids Desired

R. I., Foster—(Official)—Until May 16 by Water-Supply Bd., City Hall, Providence, 3.4-mi. highway in connection with proposed Sciutate Reservoir; advertised in this issue.

R. I., Providence—Until May 9 by Bd. Pub. Rds. for 12-mi. bituminous macadam road, also 1-mi. cement concrete highway.

R. I., Providence—(Official)—Until May 9 by State Bd. Pub. Rds., State House, reconstructing sections state highway; advertised in this issue.

Conn., Hartford—(Official)—Until May 8 by Bd. Street Comrs. for 400,000-gal. 40 to 50%, also 30,000-gal. 65% asphaltic road oil and 30,000-gal. dustoline or its equal. R. N. Clark, city engr.

N. Y., Albany—(Official)—Until May 7 by E. Duffey, state highway comr., highways in various counties; advertised in this issue.

N. Y., Long Island City—Until May 7 by M. E. Connolly, boro. pres., Queens Subway Bldg., regulating, grading, curbing, guttering paving and laying sidewalks, together with all work incidental thereto on portions of Governor Pl., Brandon, Van Alst and Payntar Ave. and Queens Blvd.

N. Y., New York—Until May 9 by M. M. Marks, boro. pres., furnishing and delivering 200,000 wood paving blocks, 3-in. wide by 3½-in. deep; also 57,000 gal. gasoline.

St. George, S. I., N. Y.—Until May 7 by C. D. Van Name, boro. pres., regulating and repaving portion Ward Ave., bituminous concrete.

St. George, S. I., N. Y.—Until May 8 by C. D. Van Name, boro. pres., regulating and repaving with old belgian blocks portion Carlyle St.

St. George, S. I., N. Y.—Until May 11 by C. D. Van Name, boro. pres., regulating and repaving portion Market St., bituminous concrete.

N. J., Bayonne—Until May 8 by Bd. Comrs. for repairing streets, asphalt and bitulithic. W. L. Clarkson, city engr.

N. J., Elizabeth—Until May 7 by Bd. Freeholders for repairing 2 streets, 19,157 sq.yd. concrete foundation. B. King, clk.

N. J., Elizabeth—Until May 11 by Bd. Freeholders, repairing roads in county, tarvia. J. L. Bauer, co. engr.

N. J., Hackensack—Until May 9 by Bd. Freeholders for replacing concrete pavement on county roads. W. M. Harkness, clk.

N. J., Jersey City—(Official)—Until May 9 by Blvd. Comrs., repaving Hudson Blvd. between Paterson Plank Rd. and Hackensack Plank Rd., West Hoboken and North Bergen; advertised in this issue.

N. J., Jersey City—(Official)—Until May 9 by Blvd. Comrs.; repaving Hudson Blvd. between Communipaw and Newark Ave.; advertised in this issue.

N. J., Jersey City—Until May 10 by City Comn. paving portions Central, Newark and West Side Ave., granite block concrete foundation. C. A. Van Kueren, city engr.

N. J., Jersey City—Until May 17 by Bd. Freeholders for improving Newark Turnpike, granite block. T. J. Wasser, co. engr. Noted Apr. 12.

N. J., Linden—Until May 7 by Twp. Com., improving Morse's Mill Rd. and 21st St., including 8105 sq.yd. 8-in. macadam with tarvia surface and 4544 cu.yd. excavation. J. L. Bauer, Elizabeth, twp. engr.

N. J., Mays Landing—Until May 9 by Bd. Freeholders for 12,000-gal. lignin binder, known as Glutrin. A. H. Nelson, co. engr.

N. J., Newark—Until May 10 by Bd. St. and Water Comrs., furnishing and applying 60,000 gal. non-asphaltic road oil to streets. M. R. Sherrard, city engr.

N. J., Newark—Until May 7 for furnishing and delivering broken stone on all county roads. F. A. Reimer, co. engr.

N. J., Palisades Park—(Official)—Until May 15 by R. Todd, mayor, Boro. Hall, Broad Ave. and Central Blvd., improving portion Central Blvd. Advertised in this issue.

N. J., Perth Amboy—Until May 7 by Bd. Aldermen for 75,000 gal. fuel oil, 28-31-deg. Baumé or better, in tank-car lots. J. J. Hanson, clk. Runyon & Carey, 895 Broad St., Newark, engrs.

N. J., Roselle—Until May 11 by Boro. repairing 5 streets, 28,010-sq.yd. to be treated with tarvia and 140-tons crushed stone. L. Bauer, boro. engr.

N. J., Trenton—Until May 11 by City Comn. paving South Broad St. and Brunswick Ave., sheet asphalt on 5-in. concrete base with concrete curb and gutter. A. Swan, Jr., city engr.

Md., Baltimore—(Official)—Until May 15 by C. H. Wilson, secy., State Roads Comn., 601 Garrett Bldg., road and bridge work; advertised in this issue.

W. Va., Bluefield—Until May 11 by City, paving and building curbs and gutters on portions William and Franklin St., also Roy Ave., bituminous macadam on concrete base. H. O. Wiles, city engr.

W. Va., Wellsburg—Until May 24 by County for road work as follows: 6-mi. Route No. 3, from Follansbee to Pennsylvania state line, 2.8-mi. Route No. 13, from Bethany Pike to Ohio Co. line, asphaltic concrete, bituminous macadam or concrete; 2.9-mi. Route No. 9, Sec. 3, from Bethany to Pennsylvania state line, 3.4-mi. Route No. 6, from Cross Creek to intersection of public road at John Carter's, water bound or tar bound macadam, also 0.4-mi. Route No. 8, from Wellsburg corporation line to West Virginia-Pittsburgh Mine, brick. C. A. Etchelberger, co. rd. engr.

S. C., Beaufort—(Official)—Until May 10 by H. G. Otis, city mgr., improving Bay St., 13,000-sq.yd. paving and 3000-ft. curb, cement concrete, bitulithic or warrenite. H. R. Pollitzer, city engr. Noted Apr. 19.

Fla., Bartow—Until May 28 by County paving 302,000 sq.yd. asphalt, and 9 concrete bridges, each of 20-ft. spans, in Winter Haven Special Road and Bridge Dist.; advertised in this issue.

Fla., Tavares—(Official)—Until May 7 by H. H. Duncan, clk bd. co. comrs., for 20 mi. road, Howey Special Rd. and Bridge Dist., including clay surfacing, grading and clearing. About $62,000. Noted Apr. 12.

Miss., Sumner—(Official)—Until May 18 by Clk. Bd. Supervs., materials for use in con-

Streets and Roads (Continued)

structing gravel highway and concrete culverts and bridges through Dists. Nos. 4 and 5; advertised in this issue.

La., Alexandria—Until May 26 by Bd. Supervs. Rd. Dist. No. 8 for grading, bridging, culverts and grains; for hauling, placing and rolling of gravel surface; for gravel, sand, stone, reinforcement and bridge material required for building units 1, 2 and 3 of highways to be improved in Rd. Dist. No. 8, about 15 mi. J. W. Texada, pres. bd. supervs.

La., New Orleans—Until May 9 by D. Buil, state highway engr., paving 13.68-mi. Crowley-Jennings Rd., gravel.

O., Bryan—(Official)—Until May 11 by County for 22.11-mi. water and bituminous macadam roads. About $361,195. B. Beucler, co. highway supt.

O., Port Clinton—(Official)—Until May 29 by Village Council paving 2nd St., rein.-con. W. H. Williamson, clk.

Indiana—By Co. Comrs. for building roads as follows:

May 7: Paoli, gravel or macadamized road in Paoli Twp.; P. M. Stephenson, co. aud.
Williamsport, 4993-ft. gravel road in Medina Twp.; D. H. Moffitt, co. aud.
New Albany, road in New Albany Twp.; E. Dupaquier, co. aud.
Nashville, road in Jackson Twp.; stone, gravel or other material. O. Morrison, co. aud.
Rockport, stone or gravel roads in Hammond and Ohio Twps. J. F. Stocking, co. aud.
Portsland, gravel road in Madison and Noble Twps.; J. Bonifas, co. aud.
Greensburg, roads in Washington and Adams Twps.; J. C. Barbe, co. aud.
Fowler, 4 gravel roads in Richland, Center, Parish Grove, and Pine Twps.; W. Mankey, co. aud.
Angola, 3 roads 1 to be of concrete; I. W. Pence, co. aud.
May 8: Delphi, road in Democrat, Burlington and Monroe Twps.; H. D. Good, co. aud.
Crawfordsville, crushed limestone and gravel road, Scott Twp., also road in Franklin Twp.; W. F. Batman, M. D., co. aud.
Goshen, gravel road in Osolo Twp., concrete road, Baugo Twp.; A. R. Bemenderfer, co. aud.
Salem, 11,735-ft. road, Vernon Twp.; E. E. Batt, co. aud.
Rochester, stone road, Liberty Twp.; E. A. Smith, co. aud.
Bedford, 6930- and 8267-ft. gravel or macadam roads.
May 9: Columbus, road in Rockcreek Twp.; W. H. Scott, co. aud.
May 11, Mt. Vernon, 4600-ft. gravel road, Harmony Twp.; J. R. Haines, co. aud.

Ind., Michigan City—(Official)—Until May 15 by A. Spychalski, city clk., paving, curbing and grading 11th St., concrete foundation. About $24,379. E. G. Dunn, city engr.

Mich., Kalamazoo—(Official)—Until May 14 by C. L. Miller, city clk., for 535,000 vitr. paving brick; advertised in this issue.

Mich., Ypsilanti—Until May 7 by city for 7-in. 1-course concrete paving 8 ft. wide from New York Central R.R. tracks west to city limits. S. Damon, clk.

Ill., Indianola—Until May 9 by S. K. Van Fleet, town clk., for 12,173 lin.ft. 10-ft., 4524 lin.ft. 16-ft., 780 lin.ft. 33-ft. and 176 lin.ft. 30-ft. concrete or bituminous macadam pavement in town of Carroll and Indianola.

Ill., Quincy—(Official)—Until May 12 by L. L. Boyer, co. supt. highways, for 5131 ft. gravel road, Sec. 6, Ellington Twp.

Illinois—(Official)—Until May 9 by State Highway Comn., Springfield, state-aid roads as follows: Adams Co., Sec. C, macadam, $24,494; Bond Co., Sec. D, brick, $7572; Clinton Co., Sec. F, concrete, $3220; De Kalb Co., Secs. S and F, concrete, $18,624 and $7,644 respectively; Effingham Co., Sec. F, concrete, $5609; Fulton Co., Sec. I, concrete, $6863; Lee Co., Sec. D, brick, $9246; Logan Co.; Secs. E, F, G, H, I, J, gravel, $8,073, $8002, $7918, $7863, $8086 and $1983, respectively. Macon Co., Sec. C, oiled earth, $11,326.

Wis., Madison—Until May 7 by Bd. Pub. Wks. paving streets concrete and sheet asphalt. About $450,000. C. A. Trimmer, city engr.

Ia., Eldon—Until May 16 by H. E. Ritz, city clk., for 13,000 sq.yd. paving, 1500 yd. extra excavation and 6700 ft. concrete curb.

Idaho, Pocatello—Until May 17 by A. R. Dawson, city clk., 62,375 sq.ft. concrete sidewalks with necessary grading. J. H. Giles, city engr.

Wash., Olympia—Until May 14 by State Highway Comn. for building 41 mi. state highway and 5 bridges. J. Allen, comr.

Wash., South Bend—Until May 8 by County for clearing, grubbing, grading and draining 1¼-mi. State Rd. No. 20; ½-mi. Lilly-Wheaton Rd. and 1¾-mi. Natl. Park Highway between Menlo and Holcomb.

California—See "Reinforced Concrete."

Que., St. Malachie d'Ormstown—Until May 7 by W. G. Gerrigle, secy-treas., macadamizing roads as follows: 3-mi. river road north side Chateguay, Ormstown to Dewittville; 3½-mi. Outard River Rd.; 2-mi. south side river road, Ormstown to Erysons; 3½-mi. upper Ormstown concession road and part of headline road.

Prices and Contracts Awarded

(★Indicates award of contract)

★Vt., Newport—(Official)—City let contract paving 9500 sq.yd. concrete, 4000 ft. concrete curb and 3500 sq.yd concrete sidewalks to J. J. Fitzpatrick & Son, Plattsburg, N. Y.

★Conn., Ansonia—(Official)—State Highway Comn., Hartford, let contract 3016 lin.ft. warrenite on concrete base, to Warren Bros. Co., 142 Berkeley St., Boston, about $22,400. In addition Conn. Co. and city of Ansonia will do extra work, estimated at $7503 and $11,092, respectively.

Conn., Hartford—(Official)—Bd. Street Comrs. received low bids paving (a) Contract 1, Albany Ave., asphalt; (b) Contract 2, Capitol Ave. and Ferry St., asphalt; (c) Huyshipe and Van Dyke Ave., asphalt; (d) granite blocks; (e) general resurfacing as follows: Warren Bros. Co., 142 Berkeley St., Boston, (a) $27,046, (b) $28,576, (c) $35,604; E. Balf Co., 26 State St., (a) $27,621, (b) $28,911, (c) $33,731, (e) $8855; Eastern Asphalt & Paving Co., 280 Broadway, New York, (a) $37,249, (b) $38,376, (c) $47,887, (e) $11,173; Union Paving Co., 26 State St., (c) $45,371, (e) $10,395; O'Neil Bros., 324 Maple Ave., (d) $13,699. Noted Apr. 19.

N. Y., New York—(Official)—M. M. Marks, boro. pres., received low bids furnishing and delivering granite blocks to Williamsburg Bridge from Rockport Granite Co., 13 Park Row, $13,350; J. Leopold & Co., Woolworth Bldg., $13,425; Booth Bros. & Hurricane Island Granite Co., 206 Broadway, $13,537.

N. J., Bayonne—(Official)—City received low bid paving 14 streets, 50,000 sq.yd. asphalt, 5800 sq.yd. granite block, from W. T. S. Critchfield, 2 Green St., Jersey City.

★N. J., Elizabeth—City let contract 20,000 cu.yd. earth fill on Baltic St. to E. L. Faughnan, 516 Middlesex and Essex Turnpike, $12,600.

★N. J., Hackensack—County let contract 20 ft. concrete paving on Fort Lee Rd. between Leonia and Teaneck to J. T. Harrop Constr. Co., 136 Passaic Ave., Garfield, $25,000.

★N. J., Jersey City—Co. Park Comn. let contract paving West Side Park, asphalt blocks, to Hastings Pavt. Co., 25 Broad St., New York, $38,073.

★N. J., Newark—City let contract paving Vail St. to Standard Bitulithic Co., Essex Bldg.; Burnet St., Wood Block, to R. Sangiovanni, 78 Hoyt St. About $14,168. Noted Apr. 12.

N. J., Paterson—County received low bid paving Midvale Rd., from M. J. O'Connell, Hackensack, macadam, $23,144; shale and native stone, $22,504.

N. J., Plainfield—(Official)—City received low bids paving various streets, (a) brick, (b) concrete, as follows: J. C. Bentley, Elizabeth, (a) Madison Ave., $4804; (b) Park Ave., $10,061; Watchung Ave., $2062; Crescent Ave., $1866; East 7th, $9104; West 7th, $40,950; Newark Paving Co., 133 1st St., Newark, (a) West Front St., $8,219; East Second St., $7912; North Ave., $9595; East 5th St., $16,909; Park Ave., $14,344; Watchung and Crescent Ave., $8739.

★Pa., Mahanoy City—(Official)—City let contract 30,000 yd. of Bitoslag paving to P. C. Reing.

★Pa., Phila.—Geo. E. Datesman, dir. pub. wks., let contract repaving portions Chelten Ave., to McNichol Paving & Constr. Co., 1923 Cherry St., $53,877; repaving portions of Columbia Ave. to J. Meehan & Sons, 915 West Dauphin St., $31,323.

★Pa., Pittsburgh—County let contract paving Renzie Rd. to M. Ott & Co., 414 Warrington Ave., $77,953. Noted Apr. 5.

★N. C., Thomasville—City let contract laying concrete sidewalks to G. Martin, Salisbury, about $10,000.

★N. C., Winston-Salem—City let contract paving 26,000 sq.yd. concrete, 9,000 sq.yd. 4-in. concrete walks, 28,000 lin.ft. concrete curb to W. C. Campbell & Co., Charlotte, $1.41, $1.02 and 32c., respectively.

★Ga., Marietta—City let contract paving streets to Merrill Road Improv. Co., James Bldg., Chattanooga, $48,000.

★O., Alexandria—(Official)—Village let contract improving portion Granville Rd. and Main St. to R. H. Nutter & Co., Newark, $41,502. Noted Apr. 5.

★O., Cambridge—City let contract paving Woodlawn Ave., to Cisler & Morris, Marietta, $20,856; brick for same to Noble Brick Co., Glenwood, $5114. Noted Apr. 12.

★O., Cleveland—City let contract improving Jefferies Ave. to Enterprise Paving & Constr. Co., 8436 Bway., $10,846. Noted Apr. 26.

★O., Cleveland—City let contract grading, draining, laying sidewalks and improving several streets to O. J. Leach, 504 Eddy Rd., and Ohio Quarries Co., Citizens Bldg.

★O., Conneaut—City let contract 7540 cu.yd. excavation, 14,100 lin.ft. concrete curb, 22,625 sq.yd. brick paving, 4-in. concrete base, also 4455 lin.ft. storm sewer, to B. A. Bennett, Coneaut, $66,891.

★O., Toledo—City let contract paving Miami and Elm St to H. P. Streicher & Co., Terminal Bldg., and Harris & Tansey, Nasby Bldg., $70,479 and $71,687, respectively.

★O., Toledo—County let contract repairing 22 roads to M. P. Hannin, Valentine Bldg.

★Ind., Greencastle—County let contract [illegible] ing and improving roads as follows: Rocma[illegible] James Bridges Rd. to Allen & Lisby, Green[illegible] $31,632; C. B. Klein Rd. to A. G. Day, G[illegible] castle, $11,350; J. F. Gillespie Rd. to Bl[illegible] Hill, $8814.

★Ind., South Bend—(Official)—Harter R[illegible] Co. let contract 23,000 sq.yd. Bitoslag pavi[illegible] Williston Constr. Co., 343 South Dearborn Chicago.

★Mich., Marshall—(Official)—County let [illegible] tract 5.76 mi. paving to Stoddart Constr[illegible] Grand Rapids, $135,291. Noted Apr. 5.

★Illinois—(Official)—State Highway Co[illegible] Springfield, let contracts road work as follo[illegible] Buis & Olson, St. Joseph, Christian Co., Sect[illegible] D, E, F, G, H, oiled earth, $22,113, McDon[illegible] Co., Sects. J, K, M, earth, $11,890; A. C. L[illegible] Co., 1816 Lafayette Ave., Mattoon, Coles [illegible] Sect. C, brick, $15,256; W. C. Menecly, Frankf[illegible] Ind., De Witt Co., Sects. A, B, C, D, E, F, earth $26,250; J. Hinden & Son, Pana, Kendall [illegible] Sect. B, concrete, $13,266; Cocking Cement [illegible] Jacksonville, Morgan Co., Sect. C, oiled earth $14,121; N. B. Ridge, Sterling, Whiteside [illegible] Sect. F, gravel, $12,630, Sect. G, $12,950. Noted Apr. 5.

★Ill., Freeport—County let contract 1000 [illegible] brick road and 2800 ft. tar macadam road to Gund-Graham Co., Freeport, $10,264 and $7[illegible] respectively.

★Ill., Kewanee—(Official)—City let contract asphaltic concrete paving to Standard Paving Co., 29 South La Salle St., Chicago, $60,000; brick paving to Gund Graham Co., Freeport, $27,000, and G. Mallory, Kewanee, $22,000. Noted Apr. 12.

★Wis., Clintonville—(Official)—City let contract paving Shawano St. to Lehman Bros., Watertown, $16,491. Noted Apr. 19.

★Wis., La Crosse—City let contract paving streets to T. E. Woolley, 148 West Ave. About $100,000.

★Wis., Milwaukee—H. J. Kuelling, co. highway comr., let contract 4-mi. rein.-con. pavement on Cedarburg Rd. to G. P. Scharl, paving 91c. per sq.yd. grading 69c. per sq.yd., culverts $12 per cu.yd.

★Minn., Blue Earth—(Official)—County let contract grading, grubbing and installing corrugated metal culverts on 20 mi. earth roads to Lamoreaux Bros. Co., 805-11 Brandeis Theater Bldg., Omaha, $30,921. Noted Apr. 5.

★Minn., St. Paul—City let contract paving portion Inglehart and Portland Ave., asphaltic concrete, to Fielding & Shepley, 216 University Ave., $36,900 and $46,990, respectively.

★Kan., Augusta—City let contract 2½-in. vertical fiber brick paving to A. Jaicks Co., American Bank Bldg., Kansas City, Mo., $39,996.

★Neb., Lincoln—City let contract paving in Dist. No. 231, asphalt concrete, to Burke-Cochrane Constr. Co., $1.75 per sq.yd.; Dist. No. 372, sheet asphalt, Abel Constr. Co., $1.93 per sq.yd.

★N. D., Bismarck—County let contract grading 100-mi. road to T. Terry, $175 per mi.

★Mont., Bozeman—(Official)—City let contract paving and installing sewer in Dist. No. 115 to Warren Constr. Co., Journal Bldg., Portland, $11,430.

★Mo., Hollister—Hollister-Ridgedale Special Rd. Dist. let contract road work to Serwood & Myers, Springfield, $10,000.

★Tex., Hereford—(Official)—City let contract paving 12 blocks, asphaltic concrete, to McCormick Co., Kansas City.

Okla., Okmulgee—City received low bid paving Alabama and 11th St. from Park-Moran Co., 152 West 2d St., Salt Lake City, $16,628. Noted Apr. 5.

★Wash., Colfax—County let contract graveling 63,706 ft. permanent highway No. 12 to J. A. Fletcher & Co., Seattle, $53,300. Noted Apr. 12.

★Wash., Colton—City let contract paving streets, 1 course concrete to McGuire Bros., American Bank Bldg., Seattle, $11,033.

★Wash., Everett—County let contract paving Bond Prop. No. 24 and Permanent Rd. No. 21 to Bancroft & Morgan, Everett, $61,668 and $15,584 respectively.

★Wash., Tacoma—County let contract paving 2 mi. permanent highway No. 8-A to McHugh & Johnson, 2330 South E St., $32,248.

★Ore., Clatskanie—County let contract grading 2 mi. Nehalem Rd. to A. L. Clark, Ranier, $19,649.

★Cal., San Francisco—Bd. Superv. let contract improving portion Judah St. to Fay Improvement Co., Phelan Bldg., $16,772.

★N. B., Moncton—City let contract paving various streets to Warren Bituminous Paving Co. of Ontario, Ltd., McKinnon Bldg., Toronto, $125,000; Bridge and Foundry St. to Carrite-Petersen Co., St. John, $15,000. Noted Apr. 5.

RAILWAYS—STEAM AND ELECTRIC

Proposed Work

N. Y., Tonawanda—New York Central R.R. (Lines East of Buffalo) granted franchise to build new line through city, including bascule type bridge. Company will spend $2,500,000 for improvements in Tonawandas. G. W. Kittredge, Grand Central Terminal, New York, ch. engr. and superv. valua. engr.

Railways—Steam and Electric (Continued)

N. J., Woodbury—City Council and Bd. Trade interested in project to build electric railway from Woodbury to Paulsboro for which right-of-way has been obtained.

Pa., Bethlehem—Lehigh & New England R.R. making surveys line from Bethlehem to Allentown, thence to Catasauqua. About $1,250,000. R. H. Wilbur, 437 Chestnut St., Phila., vice pres. and gen. mgr.

Pa., Palmerton—Bd. Trade, Slatington, reported interested in project to build electric railway from Palmerton to Slatington.

W. Va., Charleston—Charleston-Gauley Electric Ry., recently incorporated with $100,000 capital stock, will build electric railway from Charleston to Gauley Bridge. G. P. Alderson, G. B. Brooks, J. Y. Arter, B. T. Clayton and J. H. Nash, incorporators.

Ga., Atlanta—Atlanta & Anderson Ry., recently incorporated, will build line from Atlanta to Anderson, S. C. to connect with Piedmont & Northern Electric Ry. M. Bolding Natl. Bank Bldg., secy.

Fla., Miami—Tamiami Trail Corp. obtained right-of-way for railway from Miami to North bank of Tamiami Trail canal, through Monroe Co. to Cheveller Bay, 68-mi. J. F. Jaudon, Miami, interested.

Ky., Louisville—(Official)—Pennsylvania R.R. considering plans prepared by city for eliminating grade crossings for 1½-mi. from Ohio River. A. C. Shand, Broad St. Station, Phila., ch. engr. D. R. Lyman, city engr.

Ill., DuQuoin—DuQuoin, Christopher & Eastern Ry., recently incorporated, plans interurban electric line from DuQuoin to West Frankfort and from DuQuoin to Carbondale. G. W. Dowell, secy.

Kan., Manhattan—Chicago, Rock Island & Pacific Ry. plans extending line from Manhattan to Ft. Riley. C. A. Morse, La Salle St. Station, Chicago, ch. engr.

Kan., Newton—Arkansas Valley Interurban Ry., Wichita, plans to extend line north from Newton or Halstead to Salina. W. J. Faulkner, 120 West 1st St., Wichita, supt. and pur. agt.

Neb., Hastings—Union Pacific R.R. will make improvements here to cost $250,000, including track laying to have capacity of 700 cars; enlarging terminal; building 24-stall roundhouse and addition to station. R. L. Huntley, 15th and Dodge St., Omaha, ch. engr.

Tex., Dallas—Standard Utilities Constr. Co., incorporated with $100,000 capital stock, granted charter to build electric railway from Dallas, through Dallas and Denton Cos. to Slidell, Wise Co., about 58 mi. M. W. Deavenport and H. Rowe, both of Denton, incorporators.

Tex., San Angelo—Gulf Colorado & Santa Fe Ry. will lay 60 mi. of 90-lb. steel on line from San Angelo to Coleman Junction (Coleman P. O.) F. Merritt, Galveston, ch. engr.

Tex., San Angelo—Texas Electric & Power Co., recently organized with $200,000 capital stock, plans electric railway system in San Angelo and electric interurban line radiating in several directions. M. F. Treadwell, Ballinger, secy.

Colo., Denver—A. E. Carlton, S. Penrose, 301 Mining Exchange Bldg., and E. Shove, 510 Mining Exchange Bldg., all of Colorado Springs, purchased Colorado Midland Ry. and will build 2 links in system to join Denver with Salt Lake City.

Cal., Fall Brook—Atchison, Topeka, & Santa Fe Ry. (Coast Lines) applied to State Railroad Comn. for permission to reconstruct 17½-mi. branch line from Fall Brook to Fallbrook Junction (Oceanside P. O.). G. W. Harris, Kerchhoff Bldg., Los Angeles, ch. engr.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Mo., Monett**—St. Louis & San Francisco Ry. let contract rebuilding line from Monett to Hugo, Okla., Ardmore, Okla. to Hope, Ark., and Fayetteville branch to Tahlequah, Okla., to T. J. Hays, Ft. Scott, Kan.

★**Tex., Goose Creek**—R. S. Sterling, Houston, let contract grading 23 mi. railway from Goose Creek to Dayton, via Mt. Belview, to Davis & Hughes and Smith & Bramer, Houston. Noted Apr. 5.

EXCAVATION AND DREDGING

Proposed Work

N. Y., Fayetteville—Creek—Legislature passed bill appropriating $40,000 for deepening and widening Limestone Creek. State Engr. Dept., Albany, in charge.

N. C., Wilmington—Drainage—New Hanover Co. D. D. No. 3 having plans prepared by J. L. Becton, engr., Wilmington, for 7-mi. main ditch, 3 ft. wide at bottom, 6 ft. deep; also 2 mi. laterals with 2-ft. bottom, involving 36,000 cu yd. excavation. Bids about May 30.

Miss., Phila.—Drainage—Bd. Supervs. plan to drain Kentankey and Cushtusha swamps. H. W. Bell, Laurel, Miss., and S. A. Redding, Louisville, Miss., retained to make surveys.

La., Abbeville—Drainage—Coulee Kinney D. D. voted $48,000 bonds to dredge Coulee-Kinney River and branches.

O., Urbana—Drainage—Champaign Co. having plans prepared by H. B. Hull, co. engr., for district requiring open ditch, 5450 ft. long, 2 ft. wide at bottom, 5 ft. deep and containing 6389 cu.yd excavation. W. S. Coffey, co. aud.

Ia., Ft. Dodge—Ditch—Webster and Hamilton Cos. plan joint ditch in Hardin Twp. and northern part of Hamilton Co. to drain land near Stratford. About $25,000.

Ia., Glenwood—Channel—County has had surveys made straightening and improving channel of Silver Creek, involving 8-mi. ditch and 547,000 cu.yd. earth. S. Dean, Glenwood, engr.

Ia., Glenwood—Drainage—County plans Nishabotna D. D. No. 7. R. E. Humphrey, co. aud.

Ia., Storm Lake—Drainage—Bds. Supervs., Buena Vista, Pocahontas, Sac and Calhoun Cos., plan Big Cedar River Drainage Project to drain 200,000 acres. About $800,000. A. H. Cunningham, engr. in charge.

Minn., Chaska—Ditch—County plans County Ditch No. 6. J. B. Connolly, co. aud.

Minn., Duluth—Ditch—County plans Ditches Nos. 8 and 10. About $32,000 and $27,000, respectively. W. O. Halden, co. aud.

Minn., Stillwater—Ditch—Washington and Chicago Cos. plan to extend Judicial Ditch No. 1.

Minn., Walker—Ditch—Cass County having plans prepared by A. W. Moulster, engr., Pine River, drainage ditch 4 mi. long, 4 ft. wide at bottom, average depth 4 ft.; also 1 lateral 2200 ft. long and about 28,000 cu.yd. excavation. C. B. Bacon, Walker, co. aud.

Tex., Beaumont—Drainage—H. A. Kipp, drainage engr., made surveys improving and cleaning out Hillebrant's and Taylor's Bayou and forks and tributaries of both streams, Jefferson Co.

Tex., El Campo—Canals, Etc.—El Campo Irrigation Co. will build system of canals and ditches and install irrigation pumping plant. R. H. Hancock, stockholder.

Okla., Vinita—Ditch—E. N. Raycliff soon receives bids open ditch, 6338 ft. long, average depth 3.5 ft., bottom width 6 ft., requiring excavation of 9804 cu.yd. H. M. Parsons, Caney, Kan., engr.

Idaho, Cœur d'Alene—Drainage—Land owners along Cœur d'Alene River issued $150,000 bonds to dredge mouth of river for flood prevention.

Utah, Salt Lake City—Drainage—Co. comrs. created drainage district to reclaim 4000 acres land west of Jordan River. Address G. R. Bothwell, 44 South 3rd St., E.

Cal., Hueneme—Dredging—See "Miscellaneous."

Bids Desired

N. Y., Albany—See "Reinforced Concrete."

Ia., Algona—Drainage—Until May 11 by Bd. Supervs., improving D. D. No. 133, involving 3 sections of 6-in. to 36-in. tile, 121,510-ft. in all; 71 intakes and 1 section open work, about 445,630 cu.yd.; and 48 bulkheads; 1 spillway dam, about 45 cu.yd. E. H. Beardsley, co. aud.

Ia., Ft. Dodge—Drain—Until May 10 by Webster Co. for Drain No. 250. About $12,857. J. L. Hanrahan, aud.

Ia., Muscatine—Drainage—Until May 15 by Co. Aud. furnishing and laying about 2650 lin.ft. 18-in. tile and 1600 lin.ft. 16-in. tile in Muscatine-Louisa D. D. No. 13. Elliott & Harman Engr. Co., Peoria, Ill., engrs.

Minn., Owatonna—Ditch—Until May 12 by Steele and Rice Cos., Owatonna, for Judicial Ditch No. 6, consisting of 125,643 cu.yd. excavation and levelling off waste banks. About $18,782. G. A. Ralph, engr. in charge.

Mo., Cape Girardeau—Ditches—Until May 15 by W. A. O'Brien, ch. engr., Little River D. D., for scraper ditches, 4-ft. bottom, average depth 6 ft., 1 to 1 slopes, about 69,000 cu.yd excavation, with 80 acres clearing. I. Randolph, 1827 Continental Bank Bldg., Chicago, cons. engr.

Prices and Contracts Awarded

(★Indicates award of contract)

★**N. Y., Albany**—Barge Canal Work—W. W. Wotherspoon, State Supt. Pub. Wks., let contract dam across Genessee River, near Court St., Rochester, to Combined Constr. Co., Rochester, $321,115. Noted Apr. 19.

★**Ind., Bluffton**—Ditch—County let contract Abraham Haines Ditch to J. J. Franks, Hicksville, $14,224.

★**Ill., Carrollton**—(Official)—Drainage—Spankey Drainage and Levee Dist. let contract 3¾-mi. levee and 2¼-mi. ditch to M. J. O'Meara & Son, Beardston, $18,500.

★**Ia., Forest City**—Drainage—County let contract D. D. No. 77 requiring 20,437 ft. 6-in. to 30-in. tile to Berkland & Littell, Eagle Grove.

★**Ia., Hampton**—Drainage—Franklin and Hardin Cos. let contract D. D. No. 3 requiring 26,690 ft. 6-in. to 30-in. tile and 40,000 cu.yd. open-ditch work to F. E. Smith, Clarion; Hansen & Christiansen, Northwood, and Hoover Lumber Co., Dallas Center.

★**Ia., Pocahontas**—Ditches—County let contract 34,530 cu.yd. earth and furnishing and laying 39,317 ft. 6-in. to 26-in. tile in D. D. No. New 14 to McHose Sand and Tile Co., Boone, for tile; Rude & Wold, Pomeroy, for labor; C. R. Lewis, Pocahontas, for open work

★**Ia., Sibley**—Drainage—County let contract D. D. No. 34 requiring 7122 ft. tile to W. C. Fraser, 411 Hackney Bldg., St. Paul.

★**Ia., Spirit Lake**—Drain—County let contract Drain No. 40, furnishing and laying 29,600 ft 5-in. to 24-in. tile, to Cement Products Co., Spencer, for tile; Vigo Mortensen, Terril, for labor.

★**Ia., Winterset**—(Official)—Drainage—County let contract to H. A. Teget, Webster City, $12,990. Noted Apr. 12.

★**Minn., Windom**—County let contract Judicial Ditch No. 18 in Cottonwood and various counties to Rude & Wold, Windom, $159,000.

★**Mo., Rockport**—Drainage—County let contract D. D. No. 1, 85,000 cu.yd. excavation to R. S. Morrow, Omaha.

★**Ark., Conway**—Drainage—Tupelo D. D. let contract drainage work, including 3 mi. ditching, to Blodgett Constr. Co., 409 Midland Bldg., Kansas City, Kan., $12,000.

★**Ark., Ft. Smith**—Drainage—City let contract draining Grassy Lake to Sprenkle Co., 603 American Natl. Bank Bldg., Oklahoma, $57,700.

INDUSTRIAL WORKS

Proposed Work

Mass., Boston—Real Estate Trust, 40 Court St., plans 6-story, 80x85-ft. manufacturing building, 41 Portland St. About $85,000. Funk & Wilcox, 120 Boylston St., archts.

Mass., Worcester—T. J. Flinn, Waterbury, has purchased in Worcester site and plans iron foundry. About $50,000.

Conn., South Wilmington—G. Hall, Jr., & Co. plans 3-story, 120-160-ft., brick addition.

N. Y., Albany—W. W. Farley, 86 State St., plans 3-story, 68x100-ft. garage. About $50,000. H. Rogers, archt., 467 Broadway, prepared plans.

N. Y., Brooklyn—R. Leoninger, 1044 Park Ave., plans 7-story, 90x160-ft., brick factory, Steuben St. About $180,000. Helmle & Corbett, archts., 100 Montague St., prepared plans.

N. Y., New York—M. F. Longhman, 47 West 34th St., plans 5-story, 100x102-ft. brick garage, 130th St. and Old Broadway. About $150,000. E. J. Moller, archt., 103 Park Ave., prepared plans.

N. J., Paterson—L. Atherton, 91 Jasper St., prepared plans for 4-story, 60x150-ft. mill.

N. J., Perth Amboy—American Smelting and Refining Co. plans 3-story addition. About $80,000. Goldberger & Greisen, archts., 149 New Brunswick Ave., preparing plans.

Pa., Phila.—India Refining Co., Swanson and McKean St., plans 3-story factory. About $100,000. W. C. Furber, archt., 420 Walnut St., prepared plans. Noted Apr. 17.

Pa., Phila.—Pennsylvania Warehouse and Safe Deposit Co., 113 South 3rd St., soon lets contract 8-story, 112x172-ft., brick and concrete warehouse, Delaware Ave. and Water St. Noted Apr. 26.

Pa., Pittsburgh—Macbeth Evans Co., Wabash Bldg., will increase its capital stock from $2,000,000 to $5,000,000, and extend its plant.

Pa., Punxsutawney—Buffalo, Rochester & Pittsburgh Ry. will build 18-stall round house and locomotive repair shop. About $100,000. D. S. Watkins, Du Bois, engr. constr.

Pa., Wheatland—Pennsylvania R.R. plans improvements here, including roundhouse and machine shop with coal bunkers and water tanks. About $150,000. A. C. Shand, Broad St. Station, Phila., ch. engr.

Md., Frostburg—Parker Hosiery Mills & Dye Works purchased site and plans 2-story factory. About $200,000.

Va., Glen Lyn—Appalachian Power Co. plans steam electric plant. About $1,000,000. H. Markle, Bluefield, gen. mgr.

O., Cincinnati—See "Reinforced Concrete."

O., Cincinnati—See "Buildings."

O., Cleveland—Templar Motor Corp., New Guardian Bldg., plans 1-story factory. About $150,000. W. S. Lougee, archt., 500 Marshall Bldg., prepared plans. Noted Apr. 5.

O., Toledo—Toledo Machine & Tool Co., 1736 Don St., preparing plans plant, Dorr and Westwood St. and New York Central R.R. About $500,000.

O., Youngstown—Smith Brewing Co., plans addition to ice plant. About $50,000. W. D. Murray, pres. and gen. mgr.

Mich., Detroit—Bailey, Patterson & Bailey, Rex Arms Apartments, plans carpet cleaning plant. About $50,000. C. K. Porter & Sons, archts., 75 West Eagle St., Buffalo, N. Y., prepared plans.

Mich., Detroit—Detroit Seamless Tube Co., 841 Jefferson Ave., W., soon receives bids for 400 x 700-ft. shop. About $100,000.

Mich., Detroit—Parsons Mfg. Co., 21st and Fort St., plans plant. About $50,000. Esselyn & Murphy, archts., 206 New Telegraph Bldg., preparing plans.

Ill., Chicago—J. A. Brady Foundry Co., West 35th and South Ashland Ave., purchased 966 x 449-ft. site and plans group of buildings, including 150 x 360-ft. foundry and 90 x 135-ft. cleaning building. About $300,000.

Industrial Works (Continued)

Ill., Chicago—J. J. Harrington, 38 South Dearborn St., plans enlarging factory. About $50,000. Eckland, Fugard & Knapp, archts., 111 West Monroe St., preparing plans.

Ill., Chicago—O. Heineman Co., 2701 Armitage Ave., plans 3-story, 125x215-ft. factory. About $160,000. W. L. Hoffman, Jr., archt., 144 West 47th St., preparing plans.

Ill., Chicago—Pyott Co., 955 Carroll Ave., plans 1-story, 80x150-ft. foundry and machine shop. About $75,000. Davidson & Weiss, archts., 53 West Jackson Blvd., preparing plans.

Wis., Milwaukee—Wisconsin Mfg. Co., 709 Germania Blvd., plans 1-story, 114 x 228-ft. addition. About $60,000. C. H. Jones, pres.

Wis., West Allis—Milwaukee Corrugating Co., 36th Ave. and Burham St., retained Klug & Smith, archts. and engrs., Milwaukee, to prepare plans for 120 x 250-ft. corrugating shop. L. Kuehn, pres.

Neb., Hastings—See "Railways."

Mo., St. Louis—Wagner Electric & Manufacturing Co., New Bank of Commerce Bldg., increased its capital stock from $2,000,000 to $5,000,000, and will build 2 additions to its plant. About $75,000.

Ark., Ft. Smith—Lesser-Goldman Cotton Co., 112 South Main St., plans warehouse and compress. About $75,000.

Tex., Dallas—Southwestern Tire & Repair Mfg. Co. plans plant to manufacture automobile tires and tubes. About $80,000. R. L. Cameron, pres.

Nev., Tuscarora—Tuscarora-Nevada Mines Co. plans mill. About $100,000.

Ore., Portland—See "Reinforced Concrete."

Cal., Hueneme—See "Miscellaneous."

Ont., Hamilton—National Abrasive Co. purchased site and is preparing plans for plant. About $75,000.

Ont., London—Penmans, Ltd., Paris, plans woolen mills. About $50,000.

Sask., Moose Jaw—Robin Hood Mills Co. preparing plans addition. About $100,000. Noted Apr. 5.

Bids Desired

N. Y., New York—See "Reinforced Concrete" under Albany, N. Y.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Mass., Boston**—Cox Confectionery Co., 116 North St., let contract 6-story, 75x100-ft. factory to Clark & Lee, 201 Devonshire St. Noted Apr. 5.

★**Mass., New Bedford**—Passaic Cotton Co. let contract 3-story, brick and steel mill to H. W. Smith, Cleveland. Noted Apr. 26.

★**Conn., Waterbury**—Waterbury Clock Co., Cherry Ave., let contract 7-story, 73x114-ft. addition to Sperry Engr. Co., 82 Church St., New Haven.

N. Y., Brooklyn—See "Reinforced Concrete."

★**N. Y., East Salamanca**—Buffalo, Rochester & Pittsburgh Ry. let contract improvements, including machine and erecting shops, transfer table, blacksmith shop and storehouse to Westinghouse, Church & Kerr Co., 37 Wall St., New York. $500,000.

★**N. Y., New York**—Dept. Pub. Charities, Municipal Bldg., let contract elevator storehouse under Queensboro Bridge on Blackwells Island to A. Winternitz, 103 Park Ave., $400,000.

★**N. Y., New York**—Straight Edge Distributing Corp., 102 Lawrence St., let contract 4-story, 75 x 100-ft., brick bakery to P. F. Harpuett, 928 Peeler Ave.

★**N. J., Elizabeth**—See "Reinforced Concrete."

N. J., Plainfield—See "Reinforced Concrete."

★**Pa., Philadelphia**—R. A. Heyman & Bro., 1420 South Pennsylvania Sq., let contract auto showroom and garage to Turner Concrete Steel Co., 1713 Sansome St., $50,000.

★**Ind., Indianapolis**—See "Reinforced Concrete."

★**Wis., Racine**—Mitchell Motors Co. let contract 4-story, rein.-con. and brick warehouse and shipping room to Raulf Co., 53 Patton Bldg., Milwaukee. About $100,000.

★**N. D., Grand Forks**—McKinney-Fuller Motor Co. let contract plant to Northern Constr. Co., Elkhart, Ind., $60,000.

★**Ont., Chatham**—See "Reinforced Concrete."

★**Ont., Ford City**—Canadian Lamp & Stamping Co. let contract factory to Wells & Gray, Windsor, $50,000.

★**Ont., London**—Ford Motor Co. let contract addition to Wells & Gray, Bank of Commerce Bldg., Windsor, $150,000.

★**Ont., Toronto**—See "Reinforced Concrete."

★**B. C., Vancouver**—Canadian Pacific Ry. let contract extending shed No. 1, foot of Burrard St., to Davies Constr. Co., Credit Foncier Bldg., $75,000.

BUILDINGS

Proposed Work

Me., Hallowell—Central School—State School for Girls plans 3-story. About $60,000. H. S. Coombs, Masonic Bldg., Lewiston, archt.

Me., Lewiston—Armory—State voted appropriation of $80,000 to build, 1- and 2-story, 70x100-ft. G. Presson, State House, Augusta, adj.-gen. H. S. Coombs, 11 Lisbon St., Lewiston, archt.

N. H., Durham—New Hampshire College plans, New Commons Bldg., 3-story, 62x132-ft., brick. About $100,000. E. T. Huddleston, Dept. Drawing, c/o college, prepared plans.

Vt., Randolph—Hotel—Chandler Estate plans, 3-story. About $1,000,000. N. V. Frohling & C. Volz, archts., 2 West 45th St., New York, soon receive bids.

Mass., Gardner—School—Town plans. About $60,000. F. I. Cooper, archt., 33 Cornhill, Boston, preparing plans.

R. I., Providence—College Buildings—Providence College rejected bids, 3- and 4-story. About $2,500,000. M. Sullivan, 100 Boylston St., archt.

R. I., Providence—Hotel—Roger Williams Hotel Corp. prepared plans, 15-story, to be known as "The Roger Williams." About $1,000,000. C. R. Easton, 902 Turks Head Bldg., interested.

N. Y., Albany—Auditorium and Parish House—Cathedral of Immaculate Conception, 12 Madison Pl., plans, 3-story, 88 x 90-ft. About $80,000. T. L. Gleason, archt., 45 Maiden Lane, prepared plans.

N. Y., Buffalo—Parish House—Westminster Presbyterian Congregation plans, 3-story. About $50,000. Green & Wicks, archts., 110 Franklin St., prepared plans.

N. Y., Buffalo—Nurses' Home—Buffalo General Hospital, 100 High St., plans. About $75,000. Green & Wicks, archts., 110 Franklin St., prepared plans.

N. Y., Granville—Hotel—Central House plans, 4-story, 48x118-ft. wing, 20x41-ft. E. M. Copps, prop. H. Rogers, 467 Bway., Albany, archt.

N. Y., Greece—School—School Dist. No. 1 plans, 2-story, 100x150-ft. About $75,000. C. C. Ade, archt., East Ave., prepared plans.

N. Y., Lockport—Hospital—Bd. Supervs. soon lets contract. About $100,000.

N. Y., New York—Club—University Club, 5th Ave. and 54th St., plans, 9-story, 52x100x25-ft., brick and stone addition, 6-8 West 55th St. T. Rhacker, pres. McKim, Mead & White, archts., 101 Park Ave., prepared plans.

N. Y., New York—Exchange and Office—New York Telephone Co., 15 Dey St., plans, 6-story, brick, and 5-story, brick side extension, 366-376 East 150th St. About $100,000. McKenzie, Voorhees & Gmelin, archts., 1123 Broadway, prepared plans.

N. Y., New York—Theater—Norworth Theater, 1482 Broadway, plans, 1-story, 50x100-ft. About $70,000. P. Pereira, archt., 150 Nassau St., prepared plans.

N. Y., Syracuse—Y. W. C. A. has had plans prepared for building, East Onondaga St. About $180,000.

N. Y., Syracuse—Hospital—Hospital of Good Shepherd prepared plans addition. About $100,000.

N. Y., Walden—Y. M. C. A. plans building on Main St. About $50,000.

N. J., Bridgeton—High School—Bd. Educ. revising plans. About $125,000.

N. J., Newark—Court House—County plans 8-story addition, Springfield Ave. and High St. M. Shoemaker, 810 Broad St., archt.

★**N. J., Newark**—High School—Bd. Educ. let contract addition to East Side High School to F. Kilgus, 13 South 6th St., $98,229.

N. J., Newark—Schools—Bd. Educ. prepared plans, 4-story, brick and steel, on 15th St. and 3-story brick and steel on Speedway Ave. About $200,000 and $77,000, respectively.

N. J., Newark—Theater—F. G. Hall, 1583 Bway., New York, plans, on Broad St. About $350,000. P. Vivarttas, archt., 110 4th St., Hoboken, preparing plans.

N. J., North Bergen—Mausoleum—New York & New Jersey Mausoleum Assn. plans, 2-story, 75x150-ft. granite and rein.-con., on Hudson Blvd. About $150,000. C. Fall, archt., 1400 Washington St., Hoboken, preparing plans.

N. J., Ocean City—Hotel—See "Reinforced Concrete."

N. J., Point Pleasant—School—Boro. sold $55,000 bonds to build school.

N. J., Weehawken—School—Bd. Educ. of Union Hill plans, Hudson Ave. and 2nd St. About $200,000.

Pa., Allentown—Theater and Store—Channock & Senderowitz, 413 Hamilton St., plans, rein.-con., steel and terra cotta, 10th and Hamilton St. About $300,000. D. Levy, Buckley Bldg., archt.

Pa., Bethlehem—Schools—City election soon to vote on $225,000 bonds to build schools.

Pa., Butler—Grade School—Bd. Educ. Butler Twp. plans, 2-story, 74x127-ft. About $60,000. J. W. Ketterer, archt., Butler Co. Natl. B... Bldg., preparing new plans.

Pa., Clarks Summit—Almshouse—Scranton P... Dist., 624 Connell Bldg., Scranton, plans 2-st... addition. About $200,000. D. H. Morgan, Com... Bldg., Scranton, archt.

Pa., Claysburg—High School—Bd. Educ. ... chased site and will soon receive bids. A... $50,000.

Pa., Easton—Nurses' Home—Easton Hosp... Assn., 248 Spring Garden St., plans, 3-story, ... 230-ft. About $150,000. W. Michler, arch... Drake Bldg., soon receives bids.

Pa., Elizabethtown—Memorial Bldg.—Maso... Home, Grand Lodge of Pennsylvania, plans ... story, 71x214-ft. addition. About $90,000. E. ... Urban, archt., Woolworth Bldg., Lancaster, ... receives bids.

Pa., Enola—High School—Bd. Educ. plans, ... story, 80 x 146-ft. About $100,000. C. H. Lloyd, archt., Telegraph Bldg., preparing plans.

Pa., Glenside—Club House—Lu Lu Temple Country Club plans. About $60,000. G. Cox, Lu Lu Temple, 1337 Spring Garden St., Phila., member bldg. com

Pa., Lewistown—Y. M. C. A. Bldg. Comm. ... jected bids for building. About $100,000.

★**Pa., Nesquehoning**—High School—School Bd. let contract to A. J. Breslin, Summit Hill, $68,575. Noted Apr. 12.

Pa., Norristown—Y. M. C. A. plans building. About $150,000.

★**Pa., Phila.**—Bank—Northwestern Natl. Bank let contract, granite, marble and steel, on Broad St., to A. R. Raff Constr. Co., 1635 Thompson St., $164,000. Noted Apr. 12.

Pa., Phila.—Club—American Federation of Musicians, Local No. 77, 10 South 18th St., plans, 3-story, 118-20 North 18th St. M. Hirschberg, 127 North 55th St., and F. E. Hahn, 1112 Chestnut St., archts., preparing plans.

Pa., Shamokin—Theater—Chamberlain Amusement Co., 14-16 West Independence St., plans, 1-story, 75 x 125-ft. About $90,000. W. H. Lee, archt., Dime Bank Bldg., preparing plans.

Pa., Swissvale—High School—Bd. Educ. soon lets contract, 3-story, 130 x 190-ft., brick, steel and rein.-con. About $200,000. C. H. Lloyd, Telegraph Bldg., Harrisburg, archt. Noted Apr. 26.

★**Pa., Upper Darby**—High School—Bd. Educ. let contract to Butz & Galder, Allentown, $135,231. Noted Apr. 26.

Pa., Vandergrift—High School—Bd. Educ. plans, 2-story. About $100,000. W. G. Eckles, archt., Lawrence Savings & Trust Bldg., New Castle, prepared plans.

Del., Wilmington—Club House—Loyal Order of Moose having plans prepared by J. D. Thompson, archt., Wilmington, 5-story, 50 x 100-ft., brick and stone. About $100,000.

Del., Wilmington—Y. M. C. A. plans 5-story, 87x150-ft. building. About $250,000. E. Canby May, archt., Du Pont Bldg., soon receives bids.

Md., Baltimore—Lodge and Store—Knights of Pythias plan. 4-story, 82x150-ft. About $100,000. C. N. Fritz, archt., 1523 Munsey Bldg., preparing plans.

Md., Baltimore—School, Assembly Hall and Gymnasium—Park School plans, 2½-story, 350x350-ft. About $75,000. Smith & May, archts., 1133 Calvert Bldg., soon receive bids.

Va., Richmond—Grace St. Covenant Presbyterian Congregation plans, 1-, 2- and 3-story, 130x150-ft. About $100,000. Ferguson, Calrow & Wrenn, archts., Norfolk, revising plans.

W. Va., Moundsville—Grade School—Bd. Educ. plans election in May to vote on $165,000 bonds to build 4 grade schools. E. Bates, archt., Franzheim-Schmulbach Bldg., Wheeling, prepared plans.

Fla., Miami—Store and Office—Livermore Investment Co. preparing plans, 6-story. About $100,000.

Miss., Tupelo—Hotel—Tupelo Hotel Co. retained X. A. Kramer, Magnolia, to prepare plans. About $60,000. Bids will soon be received.

La., New Orleans—Store—Maison Blanche Dept. Store plans. About $500,000. E. Weil, archt., Whitney Central Bldg., preparing plans.

Tenn., Knoxville—Auditorium and School—City to vote July 5 on $150,000 bonds to build auditorium and $250,000 bonds to build schools. J. B. McCalla, city engr.

Tenn., Knoxville—See "Water-works."

O., Canton—Grade School—Bd. Educ. receiving bids about May 10. Cost $100,000. C. C. & A. L. Thayer, Commercial Bldg., New Castle, Pa., archts.

O., Celina—Parochial School—Immaculate Conception Congregation plans 2-story, 67x135-ft. About $60,000. A. de Curtins, archt., 502 Opera House Blk., Lima, soon receives bids. Noted Apr. 26.

O., Cincinnati—Theater—Palace Amusement Co., Family Theater, recently incorporated with $350,000 capital stock, plans. W. E. McElfatrick, 701 7th Ave., New York, archt.

Buildings (Continued)

O., **Deshler**—(Official)—School—City defeated $60,000 bonds to build high school. Noted Apr. 12.

O., **Fremont**—Church—St. John Lutheran Congregation prepared plans. About $60,000.

O., **Portsmouth**—Church—United Brethren Congregation plans, 1-story, 85x107-ft. About $50,000. DeVoss & Donaldson, archts., 1st Natl. Bank Bldg., prepared plans. Noted Apr. 19.

O., **Youngstown**—Office—Brier Hill Steel Co. plans. About $250,000.

Ind., **Indianapolis**—Cathedral—Ancient Accepted Scottish Rite of Masons, 3115 North Illinois St., plans, 11-story, 187x195-ft. About $1,500,000. Robush & Hunter, archts., 428 American Cantral Life Bldg., prepared plans.

Ind., **Vincennes**—Bank and Office—German Natl. Bank plans, 6-story, 40x130-ft. About $75,000. J. W. Gaddis, archt., 7th St. and Broadway, preparing plans.

Mich., **Iron River**—Schools—City voted $60,000 bonds to build schools.

Mich., **Midland**—Community Building—Midland Community Center plans, 2-story, 120 x 140-ft. About $50,000. Cowles & Nutscheller, archts., 114 North Washington St., Saginaw, revising plans.

Mich., **Stambaugh**—High School—Bd. Educ. plans, 3-story, 130x167-ft. and 14x36-ft. About $125,000. D. Hubert, Spies Bldg., Menominee, archt. Noted Apr. 5.

Ill., **Rockford**—Office—Port Bldg Co. purchased site on West State St. for office building.

Ill., **Springfield**—Exchange and Office—Central Union Telephone Co., 422 South 5th St., plans. About $100,000.

Wis., **Kenosha**—Hotel—Maxine Carleton Hotel plans, 8-story, 61x100-ft. About $250,000. White, White & White, archts., Pub. Ser. Bldg., will receive bids about June 1.

Wis., **Milwaukee**—School—City plans to spend $400,000 for improving schools this year.

Ia., **Chariton**—Schools—City defeated $50,000 bond issue to build schools.

Ia., **Corwith**—School—City voted $50,000 bonds to build school.

Ia., **Des Moines**—Hotel—J. E. Tone, 450 29th St., and G. Nollen, 402 29th St., plan 12-story, on site of old Savoy Hotel.

Ia., **Des Moines**—(Official)—Temple—Za Ga Ziz Temple, of Mystic Shrine, will let contract in fall, 3-story, brick. About $200,000. C. C. Deering, 622 9th St., Potentate, Keffer & Jones, 610 Youngman Bldg., archts. Noted Apr. 17.

Ia., **Dunlap**—Schoolhouse—City voted $75,000 bonds to build new schoolhouse.

Ia., **Iowa City**—Schools—City sold $50,000 bonds to build schools.

Ia., **Mason City**—School—City will hold election May 5 to vote on $100,000 bonds to build school.

Ia., **Nevada**—Home—County voted $75,000 bonds to build home. F. E. King, co. aud.

Ia., **Shenandoah**—High and Grade Schools—City voted bonds to build high and grade school to cost $110,000 and $40,000 respectively. Trunk & Gordon, archts., Donnell Court Bldg., St. Joseph, Mo., preparing plans.

Ia., **Waterloo**—Temple—Masonic Temple Assn. plans, 4-story, brick and stone. About $100,000.

Minn., **Minneapolis**—Church—State Bd. Minnesota Baptist convention approved plans church at University of Minnesota. Cost, $100,000. E. R. Pope, 405 Evanston Bldg., in charge of plans.

Minn., **Minneapolis**—See "Reinforced Concrete."

Minn., **New Ulm**—Parochial School and Church—St. Mary's Congregation plans, 1½-story. About $85,000. A. C. Fleischbeim, archt., 660 Gilfillan Bldg., St. Paul, prepared plans.

Minn., **Pine Island**—High and Grade School—Independent School Dist. No. 77 plans, 2-story, 61x110-ft. About $50,000. Stebbins & Haxby, archts., Auditorium Bldg., Minneapolis, preparing plans.

Minn., **Pipestone**—High School—Bd. Educ. plans. About $150,000.

Minn., **St. Paul**—Hotel—Lincoln Apartment Hotel plans, 13-story, Lincoln and Oakland Aves. About $300,000. W. I. Brackett, 1115 Merchants Natl. Bank, interested.

Kan., **Hutchinson**—High School—Bd. Educ. plans, brick, stone and concrete. About $128,000. W. E. Hulse & Co., archts., 1st Natl. Bank Bldg., preparing plans. Noted Apr. 26.

Kan., **Independence**—High School—Bd. Educ. plans election to vote on $300,000 bonds to build high school.

Kan., **McPherson**—School—Bd. Educ. plans, 3-story, brick, terra cotta and concrete. About $50,000. Markgraf & Mampe, 413 Ridge Bldg., Kansas City, Mo., archts.

Kan., **Salina**—Temple—Masonic Temple plans 3- or 4-story addition. About $100,000.

Neb., **Hastings**—Terminal and Station—See "Railways."

Neb., **Lincoln**—Office—Folson Bros. Co., 1423 O St., plans, 5-story, 50x142-ft., brick, stone and terra cotta. About $80,000. Kiske & Meginnis, 528 Bankers Life Bldg., archts.

Neb., **Omaha**—Theater and Office—Strand Amusement Co. will build, at 15th and Douglass St. About $250,000. A. H. Blank, Des Moines, pres.

Neb., **York**—Hotel—York Hotel Co. plans 6-story, 90x120-ft. F. W. & E. B. Clarke, archts., 683 Brandeis Bldg., Omaha, revising plans.

Neb., **York**—(Official)—School—Bd. Educ. soon lets contract. About $225,000. Berlinghoff & Davis, S. L. M. Bldg., Lincoln, archts. Noted Apr. 12.

S. D., **Brookings**—Armory and Gymnasium—State Bd. Regents, Pierre, plans. About $80,000. H. F. Ellerbe, Endicott Bldg., St. Paul, archt.

S. D., **Wessington Springs**—School—City plans election to vote on $50,000 bonds to build school.

N. D., **Agricultural College**—Science Hall—Agricultural College plans, 4-story, 60x90-ft. About $60,000. W. G. Ward, c/o College, archt.

Mo., **St. Louis**—Convent—Sisters of Mercy, 307 South Euclid Ave., plan, 4-story, 175x250-ft., and 2 wings, 3-story, 32x140-ft. About $250,000. Barnett, Haynes & Barnett, archts., Century Bldg., soon receive bids.

Mo., **St. Louis**—School—Bd. Educ. plans to build Penrose School, 2-story, 80x240-ft. About $245,000. R. P. Milligan, archt., c-o. Bd. Educ., prepared plans.

Mo., **Warrensburg**—High School—City defeated $70,000 bonds to build high school. Noted Apr. 5.

Ark., **Pine Bluff**—High School—Bd. Educ. sold $165,000 bonds to build high school.

Tex., **Ft. Worth**—Church—1st Presbyterian Congregation having plans prepared. About $100,000.

Okla., **Muskogee**—Auditorium—State School for Blind plans. About $50,000. C. W. Dawson, Iowa Bldg., archt.

Idaho, **Caldwell**—Hotel—Caldwell Milling & Elevator Co. plans. About $90,000. B. N. Holt, mgr.

Cal., **Alhambra**—Auditorium—City election May 15 to vote on $75,000 bonds to build high school auditorium. Marsh & Howard, Broadway Central Bldg., Los Angeles, archts.

Bids Desired

Conn., **Hartford**—Until May 19 by Salvation Army, 330 Trumbull St., for 4-story building.

N. Y., **Amsterdam**—School—Until May 16 by Bd. Educ., 2-story, brick. About $80,000. W. Potter, 1 Union Sq., New York, archt.

N. Y., **Buffalo**—(Official)—School—Until May 15 by J. F. Malone, comr. of parks and pub. bldg. for school, Dist. No. 62, Minnesota Ave.

N. Y., **New York**—Church—Until May 7 by Ft. George Presbyterian Church Society, c/o New York Presbyterian Church Extension Com., 156 5th Ave., 2-story, 47x85-ft., brick, at 186th St. and St. Nicholas Ave. Crow, Lewis & Wickenhoefer, 200 5th Ave., archts.

N. J., **Englewood**—Until May 15 by Bd. Educ. for Lincoln High School, Englewood Ave. Guilbert & Betelle, 665 Broad St., Newark, archts.

N. J., **Newark**—School—Until May 21 by Bd. Educ., 2-story addition to Madison School. About $80,000.

Pa., **Phila**—Store—Until May 5 by Bonwit Teller & Co., Chestnut and 13th St., 10-story, at 15th and Chestnut St., brick, stone, terra cotta and concrete. Le Roy B. Rothschild, archt., Chestnut and 13th St., prepared plans.

O., **Akron**—Laboratory—(Official)—Until May 8 by Bd. Dirs. of Municipal University at office of dean of Eng. College for Mechanical Laboratory. C. R. Olin, clk.

O., **Lewiston**—(Official)—School—Until May 5 by Bd. Educ. Washington Twp., Rural School Dist., Logan Co., C. Sheets, archt., 133 North High St., Columbus, prepared plans.

O., **Portsmouth**—Grade School—Until May 11 by W. C. Hazlebach, clk., bd. educ. About $60,000. Ritter & Bates, 45 1st Natl. Bank Bldg., archts.

Ia., **Sioux City**—High School—Until May 10 by Bd. Educ., 2-story, 104x132-ft., brick and stone. About $85,000. Beuttler & Arnold, 609 Security Bldg., archts. Noted Apr. 26.

S. D., **Lake Andes**—Court House—Until May 22 by Charles Mix Co., 2-story, brick, stone and concrete. About $150,000. J. Lindquist, chn. bd.

Okla., **Tulsa**—(Official)—City Hall—Until May 24 by Bd. Comrs. F. Newkirk, city aud.

Ore, **Salem**—Hospital—Until about May 20 by Salem Hospital Assn., 3-story, 42x166-ft., with 42x52-ft. wing. About $125,000. R. F. Tegen, archt., Morgan Bldg., Portland, preparing plans.

Prices and Contracts Awarded

(★Indicates award of contract)

★Mass., **Fall River**—Theater—Lyric Theater, c/o J. B. Parent, 1336 Pleasant St., will make alterations and additions, by day labor. About $100,000.

★R. I., **Providence**—Theater—A. A. Spitz let contract, South Main St., to C. L. Bigney Constr Co., 898 Westminster St., $200,000.

★Conn., **New Haven**—Drill Hall—Yale University let contract, High St., to Sperry Engr. Co., 82 Church St., $85,000.

★Conn., **Norwalk**—Hospital—City let contract, brick and rein.-con., to T. J. Pardy Constr. Co., 747 Main St., Bridgeport, $50,000.

★N. Y., **Gloversville**—School—City let contract, brick, to G. T. Kelly, 22 John St., Yonkers, $84,000.

★N. Y., **New Rochelle**—High School—Bd. Educ. let contract addition to J. M. Voss, 15 Warburton Ave., Yonkers, $175,000.

N. Y., **Plattsburg**—City Hall—City received low bids, 2-story, 80x112-ft., brick, stone and steel, from A. E. Stephens Co., 318 Main St., Springfield, Mass., $174,800, and Norcross Bros. Co., 103 Park Ave., New York, $182,000.

★N. J., **Cape May**—High School—Bd. Educ. let contract to W. B. Porch, Sheen Bl., Atlantic City, $60,000.

N. J., **Jersey City**—High School—Bd. Educ. received low bid addition to Lincoln High School from M. T. Connolly Contr. Co., 238 17th St., $113,994.

★Pa., **Ambridge**—School—Bd. Educ. let contract, 5th and Pine St., to R. B. McDanel Co., New Brighton, $50,000.

★Pa., **Phila.**—Passenger Station—Pennsylvania R.R. let contract addition, Chelton Ave., to F. A. Havens & Co., 845 North 19th St., $50,000.

★Va., **Pulaski**—Bank, Office and Store—Pulaski Natl. Bank let contract to E. M. Herringdon & Co., Roanoke, $53,264.

★Fla., **Tampa**—Club—La Unione Italiano Society let contract to Bates-Hudnall-Jetton Co., $57,673.

★La., **New Orleans**—Business Block—McElwee & Wiedman, Corsicana, let contract to J. E. Metcalf, $50,000.

★O., **Cleveland**—Hotel—Terminal Hotel Co. let contract to Thompson, Starrett Co., 175 West Jackson Blvd., Chicago, $1,500,000.

★Mich., **Pigeon**—School—Bd. Educ. let contract to F. Trier, 1973 Court St., Saginaw, $50,000.

★Ill., **Chicago**—Hotel—S. T. Cooper, Conway Bldg., let contract, 5301-15 Hyde Park Blvd., to J. A. Hammett, 327 South La Salle St., $1,000,000. Noted Apr. 5.

★Minn., **Duluth**—School—Bd. Educ. let contract Lester Park School to Jacobson Bros., Columbia Bldg., $110,000.

★Kan., **Eldorado**—High School—Bd. Educ. let contract addition to Sharp Bros., $60,000.

★Neb., **Omaha**—Business—C. R. Sherman let contract 2-story, 149x222-ft., to F. P. McClure, 5416 Maple Ave., St. Louis, $100,000.

★S. D., **Redfield**—Hospital—State Bd. Charities and Corrections, Mitchell, let contract, at School for Feebleminded, to E. Bjorklund, White Bear, $150,000.

★Mo., **Kahoka**—School—Bd. Educ. let contract to J. T. Williford, Kahoka, $50,000.

★Mo., **Kansas City**—Hospital—Grace Hospital Bd. let contract, brick, stone and concrete, to L. Crosby & Son, 517 Massachusetts Bldg., $100,000.

★Tex., **Dallas**—Nurses' Home and Training School—Baptist Memorial Sanitarium let contract to Buchanan & Gilder, 1309 Southwestern Life Bldg., $200,000.

★Tex., **Waco**—Sanitarium—Central Texas Baptist Sanitarium let contract to J. S. Harrison, Waco, $100,000.

N. M., **Gallup**—See "Reinforced Concrete."

★Ore., **Portland**—Lodge—Portland Lodge 291, Loyal Order of Moose, let contract 3-story, brick, 4th and Taylor St., to E. B. White, Lumber Exchange Bldg., Portland.

★Que., **Montreal**—Church—See "Structural Steel."

★Ont., **Ottawa**—See "Reinforced Concrete."

★Ont., **Toronto**—Bank—Bank of British North America let contract to Robertson & Sons, Confederation Life Bldg., $150,000.

FEDERAL GOVERNMENT WORK

Proposed Work

Coal Weighers—Mass., Boston—Bureau Yard and Docks (F. R. Harris, ch.), Navy Dept., Wash., preparing plans, Navy Yard.

Post Office—N. J., East Orange—J. A. Wetmore, superv. archt., Treas. Dept., Wash., rejected bids. Noted Apr. 26.

Turbo-Generators, etc.—Wash., D. C.—Bureau Yard and Docks (F. R. Harris, ch.), Navy Yard, Wash., preparing plans turbo-generators for various points, also air compressors. About $300,000.

Foundry Building—Va., Norfolk—Bureau Yards and docks (F. R. Harris, ch.), Navy Dept., Wash., preparing plans, Navy Yard. About $370,000.

Federal Government Work (Continued)

Machine Shop—Va., Norfolk—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., preparing plans. About $550,000.

Post Office—La., Alexandria—J. A. Wetmore, superv. archt., Treas Dept., Wash., rejected bids. Noted Apr. 19.

Cranes—Wash., Bremerton—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., preparing plans ship-building crane at Puget Sound Navy Yard. About $200,000.

Bids Desired

Fence and Gateways—Pa., Ft. Mifflin—(Phila. P. O.)—Until May 7 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., at Naval Ammunition Depot, Ft. Mifflin.

Bridge—Wash., D. C.—Until May 24 by Dist. Comrs., Room 509 Dist. Bldg., 7-span steel plate girder highway bridge, abutments, piers and approaches on Benning Rd.

Buildings—Wash., D. C.—Until May 7 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., contagious wards, at naval hospital reservations, Newport, R. I.; Portsmouth, N. H., and Great Lakes Ill., 9 in all.

Stable—La., New Orleans—Until May 7 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., at Naval Station, New Orleans.

Towers—La., New Orleans—Until May 23 by Lighthouse Inspector, New Orleans; advertised in this issue.

Lookout System—Mich., Port Huron—Until May 10 by J. A. Wetmore, superv. archt., Treas. Dept., Wash., in U. S. custom house and post office.

Post Office—Ill., Marion—Until June 7 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Post Office—Ill., Olney—Until June 5 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Post Office—Minn., Bemidji—Until May 31 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Levee Work—Mo., St. Louis—Until May 14 by Mississippi River Comn., 1311 International Life Bldg., St. Louis, 259,100 cu.yd. earthwork in Sny Island Levee D. D., Illinois.

Levee Work—Mo., St. Louis—Until May 18 by Mississippi River Comn., 1311 International Life Bldg., St. Louis, 100,000 cu.yd. earthwork in Hunt D. D., Illinois.

Post Office—Tex., Orange—Until June 6 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Post-Office—Okla., Durant—Until May 31 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Prices and Contracts Awarded
(★Indicates award of contract)

Steerage Barracks—Me., Portland—J. A. Wetmore, superv. archt., Treas. Dept., Wash., received low bids, Portland Quarantine Station, from Mahoney Constr. Co., $63,918, and Forgione & Romano Constr. Co., $64,983, both of Portland. Noted Apr. 5.

Post-Office—N. H., Berlin—J. A. Wetmore, superv. archt., Treas. Dept., Wash., received low bids, (a) limestone, (b) sandstone, from West Chester Eng. Co., White Plains, N. Y., (a) $49,000, (b) $50,000; W. H. Fissell & Co., 1133 Broadway, New York, (a) $49,900, (b) $50,900.

★Storehouse, Etc.—N. Y., New York—Bureau Yards and Docks, Navy Dept., Wash., let emergency contract, storehouse for supply depot and storehouse for provisions and clothing depot at Navy Yard, to Turner Construction Co., 244 Madison Ave., at cost plus 10%. Work estimated at $1,000,000 and $500,000 respectively.

★Shrinking Pit—Wash., D. C.—Bureau Yards and Docks, Navy Dept., let contract, in gun shop at Navy Yard, to Foundation Co., 233 Broadway, New York, $250,000, on cost and percentage basis.

Hydrogen Plant—Va., Hampton—Ch. Signal Officer, U. S. Army, Wash., received low bid, hydrogen generating and compressing plants at Langley Field, from Improv. Equipment Co., 60 Wall St., New York, $297,000.

Hydraulic Pumps and Accumulators—Va., Norfolk—Bureau Yard and Docks, Navy Dept., Wash., received bids, for Navy Yards at Phila. and Norfolk, (a) Norfolk, Government specifications, (a1) bidders specifications, (b) Phila., Government specifications, (b1) bidder's specifications, from Almirall Co., 1 Dominick St., New York, (a1) $56,544, $51,144, (b1) $29,562, $26,187; R. D. Wood & Co., 400 Chestnut St., Phila., (a) $86,900, (a1) $76,000, (b) $44,000, (b1) $38,700; E. J. Smith, 50 Church St., New York, (a) $78,630, $67,260, (a1) $71,640, $60,640, (b) $41,240, $55,470, (b1) $56,200, $59,340. Noted Apr. 12.

★Buildings—S. C., Port Royal—Bureau Yards and Docks, Navy Yard, Wash., let emergency contract temporary buildings at Naval Station, to G. A. Fuller Co., Munsey Bldg., Wash., at cost plus 10%.

Piers, Etc.—Fla., Pensacola—Bureau Yards and Docks, Navy Dept., received low bids concrete piers, reconstruction of existing pier, concrete drainage culvert, timber bulkhead, fill and concrete pavement at Navy Aeronautic Station, from H. Monk, 304 West Gregory St., Pensacola, $79,850, Mayby & Owens Co., Tampa, $46,400; C. H. Turner Co., 30 East Garden St., Pensacola, $138,414. Noted Apr. 5.

Post Office—O., Fremont—J. A. Wetmore, superv. archt., Treas. Dept., Wash., received low bids, Apr. 26, (a) limestone, (b) sandstone, from G. W. Stiles Constr. Co., Rookery Bldg., Chicago, (a) $99,900, (b) $100,400; C. Kanzler & Son, Evansville, Ind., (a) $101,995.

★Stone Riprap—Mich., Harbor Beach—U. S. Engr. Office, Detroit, let contract furnishing and placing, along lake face of main and south breakwaters, to T. L. Durocher & Co., Box 1000, Marquette, $157,000. Noted Apr. 26.

Dragline Excavators—Colo., Denver—U. S. Rec. Ser. let contract 4 dragline excavators to Bucyrus Co., South Milwaukee, $17,600 ea. for delivery in January or February, 1919, or $18,000 to $100,000 ea. for delivery in October and November, 1917. Noted Apr. 12.

★Post Office—N. M., Las Cruces—J. A. Wetmore, superv. archt., Treas. Dept., Wash., let contract to Latimer & Benning, Massachusetts Bldg., Kansas City, Mo., $88,743. Noted Apr. 26.

MISCELLANEOUS

Proposed Work

Crane, etc.—N. Y., New York—(Official)—T. J. Pope, 59 Pearl St., is in the market for an 8-wheel locomotive crane, standard gage and 1 with magnetic attachment desired.

Garbage Disposal Plant—N. J., Arlington—Boro. Council plans to install, using Imhoff system. T. F. Bowe, East Rutherford, engr.

Retaining Wall—N. J., Bayonne—Central R.R. of New Jersey plans along right-of-way from 44th to 46th St. About $17,000. A. E. Owen, 143 Liberty St., New York, ch. engr.

Garbarge-Disposal Plant—N. J., Paterson—Bd. Pub. Wks. will install, 50 tons capacity. H. Hardes, engr.

Garbage Plant—Pa., Newcastle—City plans to install. About $30,000. J. M. Hamilton, dir. pub. safety.

Subway—W. Va., Elm Grove—Co. Comrs. having plans prepared by W. O. McCluskey, co. engr., subway at tracks of Baltimore & Ohio R.R.

Engineering Instruments—S. C., Columbia—(Official)—J. R. Pennell, state highway engr., received no bids, Apr. 21. Noted Apr. 19.

Marine Ways—Ala., Mobile—Harrison Bros., Palmetto St., will build marine ways on east side of river opposite foot of St. Louis St., consisting of 3 separate ways with capacity of 200, 300 and 600 tons, respectively. Plans approved by Government. About $75,000.

Pipe Line—La., Shreveport—W. M. McCormick, Shreveport, plans pipe line from Shreveport to New Orleans, 45 mi.

Parks and Playgrounds—Tenn., Knoxville—City to vote July 5 on $50,000 bonds to lay out parks and playgrounds. J. B. McCalla, city engr.

Garbage Crematory—Ky., Ludlow—(Official)—City plans. W. R. Purcell, engr.

Elimination Grade Crossings—Ind., Ft. Wayne—City rejected bids, Hanna St.

Stadium—Mich., Flint—City plans on Moon Island. Surveys made. About $115,000. E. C. Shoecraft, city engr.

Transmission Line—Wis., Knapp—Wisconsin-Minnesota Light and Power Co., controlled by American Public Utilities Co., will install transmission line in Knapp. A. E. Pierce, Eau Claire, 2nd vice pres. and gen. mgr.

Transmission Line—Ia., Elkader—Schmidt Bros. Co. granted franchise to install transmission line in Clayton and Delaware Cos., including extensions to Boardman, Cox Creek, Volga and Mallory Twps. and towns of Littleport, Garber, Elkport and Colesburg.

Dock—Minn., Duluth—Clarkson Coal Dock Co., Garfield Ave., will construct addition and improve coal docks. About $10,000.

Transmission Line—Neb., Norfolk—Nebraska Gas and Electric Co., Norfolk, controlled by Continental Gas and Electric Corp., Cuyahoga Bldg., Cleveland, plans line from Norfolk to Hadar. W. C. Ross, Woodman of the World Bldg., Omaha, gen. mgr.

Park Improvements—Mo., St. Louis—City plans to spend $100,000. E. R. Kinsey, pres. bd. pub. ser.

Transmission Line—Wash., Long Lake—Washington Water Power Co., Spokane, plans high tension transmission line from power plant to Northport, 90-mi., to supply electricity to mines and other industries. C. F. Uhden, 825 Trent St., Spokane, ch. engr.

Wharves, etc.—Cal., Hueneme—McCroskey Packing Co. plans cannery, wharves affording 1-mi. dockage, 2 jetties, 1200- and 800-ft. long, dredging canal and an inner harbor. Company has made application to War Dept. for permission to convert 60-acre slough into harbor around which company owns 160 acres. About $250,000. F. J. Cooper, constr. supt.

Dam—Cal., San Diego—See "Reinforced Concrete."

Seawall—Cal., Santa Barbara—See "Streets and Roads."

Tunnel—Que., Dorval—See "Reinforced Concrete."

Bids Desired

Station Finish—N. Y., Brooklyn—Until May 16 by Pub. Ser. Comn. for 1st Dist., 120 B'way, Manhattan, station finish for 9 station on parts of B'way., 4th Ave. and Eastern Pkwy. Rapid Transit R.R.

Heating Work—N. Y., Hudson—Until May 18 by A. W. Allen, pres., bd. mgrs., New York State Training School for Girls; advertised in this issue.

Heating Work—N. Y., Newark—Until May 18 by A. W. Beaven, pres. bd. mgrs., New York State Custodial Asylum for Feeble-minded Women; advertised in this issue.

Inspection Sheds—N. Y., New York—See "Structural Steel."

Park Work—Pa., Phila.—Until May 11, by Dept. Pub. Wks. constructing last section of League Island Park, involving brick and Indiana limestone boat house, 50 x 150-ft., granite approaches and tile floor; bandstand, overlook and comfort stations all of granite. About $120,000. R. E. White, Pennsylvania Bldg., archt.

Retaining Walls—O., Cincinnati—Until May 18 by F. E. Wesselmann, pres., bd. co. comrs., at Bridge No. 31, Wesselmann Rd., and at Culvert No. 46½, Green and Miami Twps.

Swimming Pool—O., Cincinnati—See "Reinforced Concrete."

Prices and Contracts Awarded

(★Indicates award of contract)

★Park Entrance—Mass., Boston—Park and Recreation Dept., 33 Beacon St., let contract at Franklin Park, to Cambridge Cement Stone Co., 156 Lincoln St., Boston, $21,850.

★Tunnels, Etc.—Conn., New Haven—See "Reinforced Concrete."

★Elimination Grade Crossings—N. Y., Buffalo—Grade Crossings Comn. let contract, superstructure, on Louisiana St. over tracks of Erie R.R., to Peckham Constr. Co., Buffalo. Noted Apr. 26.

★Pier—Va., Hampton—Hampton & Langley Ry. let contract 1900 ft. over Black River to Tennis Constr. Co., Hampton.

Bulkhead—N. Y., New York—See "Reinforced Concrete."

★Station Finish—N. Y., New York—Pub. Ser. Comn. for 1st Dist., let contract station finish on portion Park Pl., William and Clark St. subway to J. B. Roberts & Co., 3 West 29th St., $139,919. Noted Apr. 26.

★Pier—N. J., Stone Harbor—Council let contract to W. L. Turpin & Sons, Stoneharbor, $16,025.

★Flood Prevention—Pa., Lebanon—City let contract 1st sect. flood prevention system to Mangan & Pugh, Gregory Bldg., Pottsville, $124,000. Noted Apr. 5.

★Elimination Grade Crossings—Ind., Ft. Wayne—Bd. Pub. Wks. let contract city's portion of track elevation at Lafayette St. to Moellering Constr. Co., Murray St.

Monument—Tex., Corsicana—(Official)—Corsicana Volunteer Fire Dept. received low bid, Apr. 25, completion "Firemen's Monuument" from Webb & Bee.

The Bath Portland Cement Co., has moved its offices to 8 West 40th St., New York City.

The business of **Hatzel & Buehler**, 373 4th Ave., New York City, has been incorporated. The new company is comprised of John C. Hatzel, Allan Coggeshall, Harry J. Kurras and Charles Metzger.

Carpenter Constr. Co., Ford Bldg., Detroit, Mich.

F. R. Schoen, who has represented the American Hoist & Derrick Co. in the Seattle territory for the past several years, recently severed his connections with that company and become a member of the Burback Machinery Co., of Seattle.

The C. F. Pease Co., of Chicago, are now represented in Seattle, Wash., by Chas. E. Barteau, 801 Union St., formerly president and sales manager of the Pacific Auto Supply Co., of Seattle.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Where name of official is not given inquiries should be addressed to City Clerk, County Clerk or corresponding official.

Proposals

For Proposals Advertised See Pages 47 to 55 Inclusive

WATERWORKS

Bids Close.		See Eng. News-Record.
May 14.	Milton, Ia.	May 3
May 14.	Ogdensburg, N. J.	May 3
	Adv. Apr. 26 to May 10.	
May 15.	Beloit, Kan.	May 10
May 22.	New York, N. Y.	May 10
May 25.	Mt. Rainier, Md.	May 3
	Adv. May 3 and 10.	
June 5.	Auburn, N. Y.	May 10
	Adv. May 3 and 10.	

SEWERS

May 14.	Lewisville, O.	Apr. 26
May 16.	Brooklyn, N. Y.	May 3
May 16.	Long Island City, N. Y.	May 10
May 17.	Stanley, N. D.	May 10
May 19.	Whitehall, Mont.	May 10
May 22.	Oklahoma, Okla.	May 10
May 25.	Mt. Rainier, Md.	May 3
	Adv. May 3 and 10.	
May 25.	Lakewood, O.	Apr. 19
	Adv. Apr. 19.	
May 25.	Valparaiso, Ind.	May 10
May 28.	West Burlington, Ia.	May 10
May 29.	Leland, Miss.	May 10
	Adv. May 3 and 10.	
June 2.	Burlington, Wis.	May 10
June 5.	Newark, N. J.	May 10

STRUCTURAL STEEL WORK

May 15.	Eureka, Cal.	Apr. 26
May 15.	Philadelphia, Pa.	May 10
May 15.	Toledo, O.	May 10
May 15.	Chestertown, Md.	May 10
May 16.	New York, N. Y.	May 10
May 16.	New Castle, Pa.	May 3
	Adv. May 3.	
May 17.	St. Louis, Mo.	May 10
May 18.	Kansas City, Mo.	May 10
May 20.	Des Moines, Ia.	May 3
May 21.	Ashland, O.	May 10
May 22.	Camden, S. C.	May 10
	Adv. May 10.	
May 28.	Clifton, Ariz.	May 3
	Adv. May 3 and May 10.	

REINFORCED CONCRETE

May 12.	Richmond, Ind.	Apr. 26
	Adv. Apr. 19 to May 3.	
May 12.	Louisa, Va.	May 3
May 14.	California	May 3
May 15.	Hazard, Ky.	Apr. 12
May 15.	Listowell, Ont.	May 3
May 16.	Paterson, N. J.	May 3
	Adv. May 3 and May 10.	
May 21.	San Jose, Cal.	May 3
May 22.	Philadelphia, Pa.	May 10
	Adv. May 10.	

STREETS AND ROADS

May 12.	Indiana	Apr. 26
May 12.	Quincy, Ill.	May 3
May 12.	New London, Conn.	May 10
May 14.	Olean, N. Y.	Apr. 26
	Adv. Apr. 26.	
May 14.	Indiana	Apr. 26
May 14.	Oil City, Pa.	Apr. 19
	Adv. Apr. 19 to May 3.	
May 14.	Eutaw, Ala.	Apr. 26
	Adv. Apr. 26.	
May 14.	Bangor, Me.	Apr. 26
May 14.	Watervliet, N. Y.	Apr. 26
	Adv. Apr. 26 to May 10.	
May 14.	Olympia, Wash.	May 3
May 14.	Kalamazoo, Mich.	May 3
	Adv. May 3.	
May 14.	Palisade Park, N. J.	May 3
May 14.	Sharpsburg, Pa.	May 10
May 14.	Narberth, Pa.	May 10
May 14.	Montgomery, Ala.	May 10
May 15.	Michigan City, Ind.	May 3
May 15.	Baltimore, Md.	May 3
	Adv. May 3 and May 10.	
May 15.	Berwyn, Ill.	May 10
May 15.	Menasha, Wis.	May 10
May 15.	Modesto, Cal.	May 10
May 15.	Scranton, Pa.	May 10
	Adv. May 3 and May 10.	
May 15.	Buffalo, Minn.	May 10
May 15.	Selma, Ala.	May 10
May 15.	Wooster, O.	May 10
May 15.	Willshire, O.	May 10
May 15.	Chestertown, Md	May 10
May 15.	Ottawa, Ill.	May 10
May 15.	Elkhart, Ind.	May 10
May 15.	Tonawanda, Pa.	May 10
May 15.	Allegany, Md.	May 10
May 16.	Eldon, Ia.	May 3
May 16.	Paterson, N. J.	May 3
May 16.	Foster, R. I.	May 3
	Adv. May 3 and May 10.	
May 16.	Shreveport, La.	May 10
May 16.	Providence, R. I.	May 10
May 16.	Brooklyn, N. Y.	May 10
May 16.	Long Island City, N. Y.	May 10
May 16.	Rexburg, Idaho	May 10
May 16.	Illinois	May 10
May 16.	Louisville, Ky.	May 10
May 16.	Shreveport, La.	May 10
May 17.	Pocatello, Idaho	May 3
May 17.	Jersey City, N. J.	May 3
May 17.	Newark, N. J.	May 10
May 18.	Summer, Miss.	May 3
	Adv. May 3 and May 10.	
May 18.	Darlington, S. C.	May 10
May 18.	Charleston, Miss.	May 10
May 21.	Montesano, Wash.	May 10
May 21.	Orrville, O.	May 10
May 21.	Edgar, Ill.	May 10
May 22.	Newark, O.	Apr. 26
May 22.	Kinder, La.	May 10
May 23.	Trenton, N. J.	May 10
May 23.	Jonesboro, Ark.	May 10
May 24.	Wellsburg, W. Va.	May 3
May 24.	Atlanta, Ga.	May 10
May 25.	Palatka, Fla.	May 10
May 26.	Alexandria, La.	May 3
May 26.	Bartow, Fla.	May 10
	Adv. May 3 and 10.	
May 28.	Austin, Minn.	May 10
May 28.	Batavia, Cal.	May 10
May 29.	Port Clinton, O.	May 3
May 29.	Lebanon, O.	May 10
May 30.	Lenoir, N. C.	Apr. 26
	Adv. Apr. 26.	
May 31.	Milwaukee, Wis.	May 10
May 31.	Brainerd, Minn.	May 10
June 4.	Mishawaka, Ind.	May 10
June 8.	Crowley, La.	May 10

EXCAVATION AND DREDGING

May 14.	Minneapolis, Minn.	May 10
May 15.	Trenton, N. J.	Apr. 19
	Adv. April 19 to May 10.	
May 15.	Cape Girardeau, Mo.	May 3
May 15.	Muscatine, Ia.	May 3
May 15.	Oklahoma, Okla.	May 10
May 15.	Fairmont, Minn.	May 10
May 16.	Vale, Ore.	Apr. 26
May 16.	Duluth, Minn.	May 10
May 16.	Brooklyn, N. Y.	May 10
May 17.	Ontario, Ore.	May 10
May 18.	Petersburg, Ind.	May 10
May 18.	Schuyler, Neb.	May 10
May 18.	Elk River, Minn.	May 10
May 22.	Clear Lake, S. D.	May 10
May 24.	Ft. Dodge, Ia.	May 10
May 25.	Benson, Minn.	May 10
May 31.	Schuyler, Neb.	Apr. 26
May 29.	Albany, N. Y.	May 3
	Adv. May 3 and May 10.	

BUILDINGS

May 14	Asbury Park, N. J.	Apr. 26
May 14.	Paterson, N. J.	May 3
May 15.	Fulton, Mo.	Apr. 12
July 15.	Kansas City, Mo.	Apr. 19
May 15.	Buffalo, N. Y.	May 3
May 15.	Trenton, Ont.	May 10
May 16.	Amsterdam, N. Y.	May 3
May 16.	Brooklyn, N. Y.	May 10
May 17	Hoxie, Kan.	May 10
May 19.	Hartford, Conn.	May 3
May 21.	Newark, N. J.	May 3
May 22.	Lake Andes, S. D.	May 3
May 22.	Napier, Ia.	May 10
May 24.	Tulsa, Okla.	May 3
May 26.	Columbus, O.	Apr. 26
May 30.	Urbana, Ill.	Apr. 26
	Adv. Apr. 26.	
June 2.	Redfield, S. D.	May 10

FEDERAL GOVERNMENT WORK

May 14.	Baltimore, Md.	Apr. 26
	Adv. Apr. 12 to May 10.	
May 14.	Key West, Fla.	Apr. 26
	Adv. Apr. 26.	
May 14.	Vallejo, Cal.	Apr. 26
May 14.	New Orleans, La.	Apr. 26
May 14	Washington, D. C.	May 10
May 15.	Bolinas, Cal.	Apr. 5
	Adv. Apr. 5.	
May 16.	Fitzgerald, Ga.	Apr. 19
	Adv. Apr. 12.	
May 16.	Athens, Tenn.	Apr. 19
	Adv. Apr. 12.	
May 17.	Sault Ste. Marie, Mich.	Apr. 26
	Adv. April 19 to May 10.	
May 17.	Cedar Falls, Ia.	Apr. 12
May 17.	Prescott, Ark.	May 10
May 17.	Washington, D. C.	May 10
	Adv. May 3 and 10.	
May 17.	Cedar Falls, Ia.	May 10
May 18.	Santa Fe, N. M.	Apr. 26
May 18.	El Paso, Tex.	Apr. 19
May 19.	Washington, D. C.	Apr. 26
	Adv. Apr. 26.	
May 21.	Vallejo, Cal.	Apr. 26
May 21.	Cleveland, O.	Apr. 26
	Adv. April 19 to May 10.	
May 21.	Wilmington, Del.	Apr. 26
	Adv. Apr. 26 to May 10.	
May 21.	Kansas City, Mo.	Apr. 26
	Adv. Apr. 26 to May 10.	
May 21	Philadelphia, Pa.	May 10
May 21	Norfolk, Va.	May 10
May 21	Boston, Mass.	May 10
May 21	Pensacola, Fla.	May 10
May 21	Portsmouth, N. H.	May 10
May 21.	Washington, D. C	May 10
May 21.	Norfolk, Va.	May 10
May 23.	Garfield, N. M.	Apr. 26
	Adv. Apr. 26.	
May 23.	Montgomery, Ala.	Apr. 26
	Adv. May 3 and May 10.	
May 23.	Denver, Colo.	May 10
May 24.	Indiana, Pa.	Apr. 26
May 25.	Washington, C. H. O.	Apr. 26
May 28.	Jasper, Ala.	Apr. 26
	Adv. Apr. 19 and 26.	
May 28	Bremerton, Wash.	May 10
May 28	Washington, D. C.	May 10
May 29.	Southbridge, Mass.	Apr. 26
	Adv. Apr. 19 and 26.	
May 29.	Berwick, Pa.	Apr. 26
	Adv. Apr. 26 and May 3.	
May 29.	Charlotte, N. Y.	May 10
	Adv. May 10.	
May 29.	New London, Conn.	May 10
	Adv. May 10.	
May 30.	Ft. Michie, N. Y.	Apr. 26
	Adv. Apr. 26 and May 3.	
May 31.	Washington, D. C.	May 10
	Adv. May 10.	
June 1.	New Albany, Ind.	May 10
June 2	Ft. Greble, R. I.	May 10
June 4.	Sanford, Fla.	May 10
June 5.	Olney, Ill.	May 3
June 6.	Orange, Tex.	May 3
June 7.	Marion, Ill.	May 3
June 8.	Ft. Laramie, Wyo.	May 10
June 9.	Montgomery, Ala.	May 10
	Adv. May 10.	

MISCELLANEOUS

May 16.	Levee—New Orleans, La.	May 10
May 17.	Turbine & Generator. Rockport, Ill.	Apr. 26
June 1.	Wharf—Richmond, Va.	Apr. 19
May 14.	Riprap—Harrisburg, Pa.	May 10
May 16.	Station Finish, Brooklyn, N. Y.	May 3
May 18.	Heating Work, Hudson, N. Y.	May 3
	Adv. May and May 10.	
May 18.	Heating Work, Newark, N. Y.	May 3
	Adv. May 3 and 10.	
May 18.	Retaining Wall, Cincinnati, O.	May 3
May 21.	Pumping Plant—Louisiana, Mo.	May 10
	Adv. May 3 and 10.	
May 21.	Pipe Line—Midvale, Utah	May 10
May 28.	Subway—Davis, Cal.	May 10

Where name of official is not given, inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATER-WORKS

Proposed Work

R. I., Woonsocket—City Council appropriated $30,000 for new pump at pumping station. A Gauhin, chn. water comrs.

N. Y., Olean—Bd. Water Comrs. plans new pumping station on north side of river near South Union St. About $10,000. W. Sheahan, supt.

N. J., Riverdale—Town plans to install water mains. About $18,000. Address H. V. Mickens.

Pa., Loretto—State Comr. approved plans water and sewerage systems.

Va., Farmville—City voted $50,000 bonds to improve water-works, electric-light plant and streets. Noted Apr. 5.

Water-Works (Continued)

La., Bossier—City soon lets contract for water system. About $30,000. Noted May 3.

O., Akron—City election June 6 to vote on $1,000,000 bonds to increase capacity of purification plans and distribution system. Noted May 3.

O., Chardon—City plans election to vote on $58,000 bonds to install water system.

O., Marietta—See "Reinforced Concrete."

O., Ravenna—City will sell $35,000 bonds on May 21 to purchase land, easements and rights-of-way to improve water system by constructing dam and water treatment plant, laying pipe and all necessary appurtenances S. B. Horsfield, dir. pub. ser.

O., Toledo—City soon lets contract for Broadway pumping station. Cost, $50,000 to $60,000. H. McClure, city engr.

O., Wooster—City having plans prepared by W. J. Sherman Eng. Co., engrs., 613 Nasby Bldg., Toledo, for new water system.

Ind., Indianapolis—Indianapolis Water Co. plans to lay water mains on portions 10 streets. B. J. T. Jeup city engr.

Mich., Midland—City plans election to vote on $100,000 bonds for filtration plant, sewer and lighting extensions and paving boulevard.

Ill., Albion—City plans to vote on $19,500 bonds for water system.

Ill., Farmington—City voted $20,000 bonds to improve water system. Noted Apr. 12.

Ill., Casey—See "Sewers."

Ia., Marena—City voted $17,000 bonds to install water system.

Minn., Duluth—(Official)—City receiving bids in June 20,000,000-gal. centrifugal pump. E. W. Kelly, engr.

Minn., International Falls—City soon receives bids laying 3000 ft. water mains. D. Rose, city engr.

Minn., Remer—City voted $10,000 bonds to install water system. W. C. Buck, 4821 Fremont Ave., S., Minneapolis, engr.

Kan., Ft. Scott—City voted $18,000 bonds to improve water system.

Kan., Garden City—City preparing plans for pumping plant and extending water mains.

Kan., Geuda Springs—City postponed letting of contract for water-works and sewerage system on account of delay in delivery of materials. Bids in fall. Benham Engr. Co., Colcord Bldg., Oklahoma, engrs. Noted Apr. 19.

Neb., Stanford—City defeated bonds to install water system. E. B. Murray, 920 Walnut St., Kansas City, engr.

Mont., Livingston—City will sell $225,000 bonds May 28 to install water system. E. C. Riss, city engr. Noted May 3.

Mont., Wolf Point—City sold $17,000 bonds to improve water-works.

Tex., Carthage—City plans to install water system.

Okla., Billings—City election May 7 to vote on $10,000 bonds for water-works extension and $10,000 for electric-light improvements. Address L. Ponton.

Okla., Mangum—City plans water-purification plant. Benham Engr. Co., engrs., Colcord Bldg., Oklahoma, preparing plans.

Okla., Oklahoma—City rejected bids for water-works improvements. New bids soon. G. V. McClure, engr.

Okla., Red Fork—City plans to install water system.

Colo., Colorado Springs—City issued $150,000 bonds to improve water system. C. Kesson, mayor.

Idaho, Elk River—See "Railways."

Utah, Provo—See "Industrial Works."

Ore., John Day—City voted $10,000 bonds to install water system.

N. B., St. John—See "Excavation and Dredging."

Que., Dorval—Town plans filtration plant. A. Decary, clk. Dupont, Roy & Baudouin, 225 St. James St., Montreal, engrs.

Que., Montreal South—City plans to spend $180,000 to install water and sewerage systems, plans include overhead steel tank, 100,000-gal. capacity, centrifugal pumps, 800 gal. per min. capacity, 350,000-gal. filter plant, sterilizing outfit, 125-hp. gasoline motor and vitr. tile sewers in 17 streets to connect with proposed trunk sewer through Greenfield Park, St. Lambert and Longueuil to empty into St. Lawrence River.

Ont., Hamilton—City plans improvements at Beach pumping plant, involving additional transformer capacity, about $20,000; also steam turbine centrifugal pump, 10,000,000 gal. capacity, and additional electric unit, about $107,000. E. R. Gray, city engr.

Man., Winnipeg—Greater Winnipeg Water Dist., 501 Tribune Bldg., rejected bids for furnishing c.-i. pipe, specials and gate valves. R. D. Waugh, chn. of comrs.

Alta., Edmonton—See "Structural Steel."

Bids Desired

N. Y., Auburn—(Official)—Until June 5 by Bd. Water Comrs., sand filtration plant (readvertisement) advertised in this issue. Noted Apr. 26.

N. Y., New York—Until May 22 by C. Strauss, pres., bd. water supply, Municipal Bldg., furnishing and delivering cement for use at Woodstock and Glenford dikes of Ashokan reservoir, to be delivered to West Hurley station of Ulster & Delaware R.R.

N. Y., New York—Until May 22 by C. Strauss, pres. bd. water-supply, Municipal Bldg., for Contract 186, borings at Woodstock and Glenford Dikes of Ashokan reservoir, Hurley, Ulster Co.

N. J., Ogdensburg—Until May 14 by Mayor and Council for water system (exclusive of c.i. pipe and specials, valves, hydrants, pipe and fittings for house) involving 19,000-ft. c.i. pipe with necessary valves and hydrants, 1000-yd. earth excavation, 1,500-ft. trenching, including laying absorption tile drains at source of supply and 1500-ft. round agricultural drain tile in 1-ft. lengths. H. N. Blunt, Palmerton, Pa., engr.

Md., Mt. Rainier—Until May 25 by town installing new water system, including 10 mi. 4- to 8-in. c.-i. pipe, 2 motor-driven centrifugal or triplex pumps, tank and tower. About $50,000. Noted Apr. 5.

Kan., Beloit—(Official)—Until May 15 by C. R. Herrick, city clk., water system, including 200-hp. tube boiler, 2 400-gal. per min. motor driven pumps, 30-ft. head, 2 400-gal. per min. motor driven pumps, 200-ft. head, and equipment for 500,000 gal. plant. About $50,000. Black & Veatch, Interstate Bldg., Kansas City, Mo., engrs.

Okla., Oklahoma—See "Excavation and Dredging."

Prices and Contracts Awarded

(★Indicates award of contract)

★**Mass., Falmouth**—City let contract extending water mains to H. V. Lawrence, Falmouth, $10,000.

★**Mass., Fitchburg**—City let contract compensating reservoir to G. Rosse & Son, 10 Oxford St, Leominster, $14,808.

N. J., Newark—(Official)—Bd. St. & Water Comrs. received low bids raising dam of Oak Ridge Reservoir from Heyman & Goodman Co., 15 Exchange Pl., $71,422; Harrison & Craig Co., 837 Broad St., $75,539; Averill Matthews Co., 31 Clinton St., $81,169. Noted Apr. 26.

★**Pa., Ambridge**—City let contract to extend water system to R. V. Baldwin, Coraopolis, $45,-000.

★**Pa., Ringtown**—See "Reinforced Concrete."

★**Ill., Gross Point**—City let contract 40,000 ft. 6- 8- and 10-in. water pipe with necessary hydrants and valves, to M. McElliott, 1408 Main St., Evanston, $70,000.

★**Ill., Kewanee**—City let contract extending water mains to Albrecht Bros., Kewanee.

★**Wis., West Allis**—State let contract water supply and sewerage systems at State Fair Park to J. M. Donahue, Stevens Point, $25,000.

★**Minn., Wadena**—(Official)—City let contract 11,000 ft 4- to 6-in. c.-i. water main to Pastoret Constr. Co., 2 Phœnix Bldg., Duluth, $13,750.

N. D., Fargo—City received low bids installing water mains portions 6th, 7th, 8th, 9th, 15th, 15½ and 16th Sts. from C. H. Porritt, Aiken Constr. Co., Schruth & Jackson and Haggart Constr. Co.

★**Tex., Houston**—City let contract new water-works pumping station to C. S. Basham, 1310 Leeland Ave., Houston, $18,970.

★**Wash., Vancouver**—North Coast Power Co. let contract improving water system to Jacobsen & Jensen, 407 Stanton St., Portland. About $60,000.

★**Ore., Astoria**—Astoria Water Comm. let contract 20,000,000-gal. reservoir to M. P. Zindorf, Seattle, $120,534.

★**Ore., Hubbard**—City let contract water-works system to United Contr. Co., Northwest Bank Bldg., Portland, $17,000.

★**Ont., London**—Utilities Comm. let contract furnishing c.-i. pipe for water mains to Gartshore-Thomson Pipe and Foundry Co., Stuart St, Hamilton.

★**Ont., Longford Mills**—Standard Chemical Co. let contract 1500 gal. per min. duplex pump to operate against 100-lb. pressure, to Bawden Pump Co., Ltd., Toronto.

SEWERS

Proposed Work

N. Y., Gloversville—City rejected bids storm water sewers in West 11th Ave. and Main St. J. H. Hammer, city engr.

N. J., Rahway—Common Council has been requested by Attorney General to build sewage-disposal plant to handle sewage now being emptied into Rahway River. F. Marsh, city engr.

Pa., Cheltenham—(Official)—Town voted $25,-000 bonds to install sewerage system and sewage-disposal plant. Albright & Melris, Land Title Bldg., Phila., engrs Noted May 3.

Pa., Eldred—A. Leets, Coudersport, letting surveys for sewage-disposal plant to be installed in village.

Pa., Elizabethtown—Boro. having plans prepared by F. H. Shaw, engr., 53 North Duke St., Lancaster, for sewerage system. About $25,000 J. W. Risser, clk.

Pa., Harrisburg—City Comn. plans sewage-disposal plant. J. H. Fuertes, 140 Nassau St New York City, engr.

Pa., Loretto—See "Water-Works."

Pa., Scranton—See "Streets and Roads."

W. Va., Martinsburg—City plans to extend and improve storm-sewer system. About $25,000 E. D. Bromley, city engr.

O., Cleveland—City plans sewers in East 125th, East 126th and East 124th St. R. Hoffman, city engr.

O., Dayton—City plans to issue $400,000 bonds for water system, including 10,000,000-gal. covered reservoir, pipe reinforcements, 10,000,000-gal. pump, wells, etc. Metcalf & Eddy, 14 Beacon St., Boston, engrs.

O., Kent—City plans to issue $10,000 bonds to complete sewerage system.

O., Lebanon—See "Streets and Roads."

O., Wilmington—City defeated $75,000 bonds to install sewerage system. New election will be held. Noted Apr. 19.

Ind., South Bend—City plans to install trunk sewer in Portage Ave. About $60,000. F. J. Anderson, city engr.

Ind., South Bend—City plans to install trunk sewers in High and Ewing Sts and pipe sewers in Donald and Fox Sts. F. J. Anderson, city engr.

Mich., Midland—See "Water-Works."

Ill., Canton—City soon lets contract installing sewerage system. About $19,000.

Ill., Casey—City plans 5½-mi. c.-i. storm sewer, 2 pumps, 400 to 500 gal. per min. each for water-works and pumping station. About $60,000. C. Brossman, engr., Merchants Bank Bldg., Indianapolis, preparing plans.

Ill., Knoxville—City plans to install sewerage system.

Wis., Kilbourn—(Official)—City defeated bonds to install sewerage system. Noted Apr. 19.

Ia., Davenport—City soon receives bids installing storm drains in portion Kirkwood Blvd., segmental block tile, 30- to 54-in. diam. About $21,000. R. E. Sawistowsky, city engr.

Minn., Hayward—Village voted in favor of installing sewerage system W. Baneck, engr.

Minn., St. Paul—City plans to install Otto-Niles sewerage system. About $70,208. O. Claussen, city engr.

Minn., Winona—City rejected bids laying 1700 ft. storm sewers. G. W. Hofmann, clk. Noted Apr. 12.

Kan., Genda Springs—See "Waterworks."

Mo., Mexico—(Official)—City having plans prepared by Black & Veatch, engrs., 507 Interstate Bldg., Kansas City, for sewer improvements Noted Apr. 19.

Mo., St. Louis—City plans to issue $18,840,000 bonds for improvements as follows: Conversion of River Des Peres into closed sewer; installing new and reconstructing old sewers, $3,325,000; laying industrial railway along north bank, reclaiming land, establishing streets and constructing viaducts, $9,915,000; garbage plant, $250,000; street material yards, $100,000; fireproofing city stables, $100,000; southern approaches to free bridge, $1,000,000; bridges, viaducts and streets, $500,000; municipal farms, $450,000; mobilization of fire dept., $300,000; Koch Hospital extensions, $150,000; parks and playgrounds, $2,750,000. E. R. Kinsey, pres. bd. pub. ser.

Tex., Graham—City voted $25,000 bonds to install sewerage system.

Okla., Altus—(Official)—City plans to install sewage-disposal plant with $15,000 bonds, recently voted. Benham Eng. Co., Colcord Bldg., engrs.

Okla., Jenks—(Official)—City defeated $12,000 bonds to extend sewerage system. F. M. Kirvin, clk. Noted Apr. 19.

Cal., Santa Barbara—City will vote June 26 on $85,000 bonds to construct outfall sewerage system. Olmstead & Gillilen, 1112 Hollingsworth Bldg., Los Angeles, engrs. Noted Apr. 12.

Cal., Upland—City will hold election June 5 to vote on $24,000 bonds for outfall sewer. Olmsted & Gillelen, 1112 Hollingsworth Bldg., Los Angeles, engrs.

Que., Longueuil—Town plans to install sewers. About $30,280. A. Thurber, mayor.

Ont., Amherstburg—Town Council plans to extend sewerage system. G. E. Pulford, clk.

Ont., Toronto—R. C. Harris, works comr. recommended to Works Comn. sewers on portions of Don Esplanade West, Front and Overend St. About $15,000.

Sewers (Continued)

Bids Desired

N. Y., Long Island City—Until May 16 by M. E. Connolly, boro. pres., Queens Subway Bldg., sewers appurtenances in 48th, 49th, 50th, Hancock, Ferguson, Edson, Darwell, Mickell and Brady Sts., Alburtus and Fillmore Aves., 2nd Ward; in Park, Hatch, Beaufort and Leggert Ave., Fulton, Diamond, Ferry, Ashland, Farragut, Shipley and Stanton Sts., Forest Pkwy. and Roswell Pl., 4th Ward; Park inlet basin at Beach 130th St. and Newport Ave., 5th Ward; receiving basins and appurtenances in Beach 117th St., Rockaway Beach Blvd., and Newport Ave., 5th Ward; temporary drain in portion 72nd Ave., 3rd Ward; overflow pipe line, gate and connection to well at Elmhurst disposal plant, 2nd Ward; gate chamber and appurtenances at Elmhurst disposal plant, 2nd Ward.

N. J., Newark—Until June 5 by Passaic Valley Sewerage Comn. for Sect. 2 outfall tunnel at Greenville. This contract was previously awarded and abandoned. About $1,800,000.

Miss., Leland—(Official)—Until May 29 by J. H. O'Quinn, town clk., for sewerage system; advertised in this issue.

Ind., Elkhart—See "Streets and Roads."

Ind., Valparaiso—(Official)—Until May 25 by city for West End sewerage system, including 8407 ft. 8-in., 355 ft. 9-in., 1742 ft. 10-in., 1881 ft. 12-in., 200 ft. 14-in., 983 ft. 15-in., 400 ft. 16-in., 2629 ft. 18-in., 1331 ft. 20-in., 380 ft. 22-in., 2069 ft. 24-in. and 60 ft. 25-in. c.-i. pipe, 60 manholes, 20 lampholes, outlets, etc. About $28,200. C. L. Nelson, city engr. Noted Apr. 5.

Wis., Burlington—(Official)—Until June 2 by Bd. Pub. Wks. for storm-sewer system involving 980 lin.ft. 42-in., 347 lin.ft. 36-in., 378 lin.ft. 24-in., 80 lin.ft. 10-in. sewer, 4 catch basins and 6 manholes; for sanitary sewer 1457 lin.ft. 15-in., 927 lin.ft. 12-in., 927 lin.ft. 10-in., 2317 lin.ft. 8-in., 1256 lin.ft. 6-in. vitrified pipe sewer and 23 manholes

Ia., West Burlington—(Official)—Until May 28 by W. J. Giesselman, town clk., sanitary sewerage system, sewage-disposal plant and sewerage pumping plant, involving 15,310 ft. of 8-, 10- and 12-in. vitr. pipe, 15,310 ft. trenching, 0.6 ft. to 20 ft. deep. Stevens & Stiles, 708 Ridge Arcade, Kansas City, Mo., engrs. Noted Apr. 26.

N. D., Stanley—Until May 17 by G. Olson, city clk., for sewerage system.

Mont., Whitehall—Until May 19 by City Council for sewage-disposal plant. G. E. Baker, engr.

Ark., Clarksville—See "Streets and Roads."

Okla., Oklahoma—Until May 22 by city for intercepting sewer. About $200,000. G. V. McClure, city engr. Noted Apr. 12.

Prices and Contracts Awarded

(★Indicates award of contract)

★**N. Y., Gloversville**—City let contract storm water sewers in East Blvd. and West Fulton St., to M. Vrooman, Main St. About $15,000.

★**N. Y., Syracuse**—City let contract building 2 mi. sewers to J. Young, Syracuse.

★**N. Y., Syracuse**—City let contract Divisions 3, 4 and 5, Onondaga Creek Improv., intercepting sewers, connections and alterations of existing sewers, to J. Young, 509 Rastable Blk., $449,960. Noted Apr. 26.

★**Pa., Hanover**—Town let contract installing sewage-disposal plant to H. Mailander, 167 Barney St., Wilkes-Barre, $92,358.

★**N. C., Lenoir**—See "Streets and Roads."

★**Ga., Cairo**—City let contract sewerage system to J. B. McCrary Co., 3rd Natl. Bank, Atlanta, $24,500.

★**O., Akron**—City let contract installing sewers in Dist. 1, Firestone Allotment to T. E. McChaffery Constr. Co., $57,000.

★**O., Canton**—City let contract storm sewers to F. A. Downs Constr. Co., 609- 2nd St., N. E., $85,000; and G. W. Luke, 122 Kensington Ct., $2639.

★**O., Chillicothe**—Bd. Intercountry Hospital Trustees let contract sanitary sewer to connect hospital building with city sewerage system to Ringwald & Son.

★**O., Cleveland**—City let contract sewer in Melzer Ave. to J. Connelly Constr. Co., 520 Leader-News Bldg., $13,064.

★**O., East Cleveland**—City let contract storm and sanitary sewers in portion Superior St. to G. W. White, 906 Williamson Bldg., $12,059.

★**O., Toledo**—(Official)—City let contract Sewer No. 16 to J. N. Bick, 601 Nasby Bldg., $192,437.60.

★**Neb., Omaha**—City let contract laying 2 mi. sewers to Keystone Pipe Co., Nebraska City.

★**S. D., Clear Lake**—(Official)—City let contract sewerage system and sewage-treatment plant to Ellerman & McClain, Yankton. Noted Apr. 26.

★**S. D., Wessington Springs**—(Official)—City let contract sewers and sewage-treatment plant to Dunnegan & Briggs, Shenandoah, Ia.

Cal., Los Angeles—County received only bid sewage-pumping plant at county farm from J. P. Hunter, 405 West 58th St., $11,400.

★**Cal., Stockton**—City let contract 13,020 ft. 36-in. r. w. stave and 4614 ft. 16 in. vitr. sewers to J. Heafey, 22 Mesa Ave., Oakland, $56,909.

★**Ont., Peterboro**—City let contract furnishing sewer pipe required for 1917 to H. B. Taylor & Son, Aylmer St.

STRUCTURAL STEEL

Proposed Work

N. J., Paterson—Bd. Freeholders plan to build culvert at Weasel Brook. About $165,000. G. Ferguson, co. engr.

Pa., Johnstown—T. J. Harris, supt. highways, rejected bids extension to 6th St foot bridge, 11th ward. Noted Apr. 19.

S. C., Greenvile—Southern Ry. plans 185-ft. through truss bridge to cross 11 tracks, including 2 main tracks on Gates St., at freight yard south Greenville. B. Herman, Wash., D. C., ch. engr. M. W. and Struct.

Ala., Birmingham—St. Louis & San Francisco R.R. plans to build 175 steel bridges to replace wooden bridges, also lift-span type bridge over Warrior River at Corova. About $350,000. F. G. Jonah, St. Louis, Mo., ch. engr.

Ala., Montgomery—City prepared plans bridge over Talapoosa River. About $75,000. S. E. Washburn, city engr.

Miss., McComb—Illinois Central R.R. plans to build viaduct. About $200,000. A. S. Baldwin, Chicago, ch. engr.

O., Girard—Co. Comrs. plan new bridge over Mahoning River on Liberty St.

Wis., Clintonville—City voted $10,000 bonds to build bridges.

Wis., Sheboygan—City defeated $50,000 bonds for South 14th St. viaduct.

Ia., Mason City—County sold $17,000 bonds to build bridges.

Minn., Mankato—City plans election to vote on $30,000 bonds to build bridges. H. F Blomquist, city engr.

Neb., Omaha—County sold $268,500 bonds to build bridges and roads.

Mo., St. Louis—See "Sewers."

Okla., Alex—See "Streets and Roads."

Wash., Seattle—County Comrs. soon receive bids building trestle bridge over Kenmore Slough. About $20,000. S. Humes, co. engr.

Cal., Marysville—See "Streets and Roads."

Cal., Oakland—County and Southern Pacific Co. plan bascule bridge over inner harbor. About $1,000,000. W. Hood, San Francisco, ch. engr.

Alta., Edmonton—City Council soon receives bids 4 steel tanks at filtration plant. A. Haddow, act. city engr.

Bids Desired

N. Y., New York—(Official)—Until May 16 instead of May 7, by Pub. Ser. Comn. for 1st Dist., 120 Bway, furnishing and erecting structural steel for inspection sheds in 180th and 239th St. yards of Route No. 18, White Plains Rapid Transit R.R. Noted Apr. 19.

Pa., New Castle—Until May 16 by Co. Comrs. for 37-ft. plate girder span over Coffe Run, 1 219-ft. truss steel span over Neshannock Creek on Mill St. and rebuilding bridge over Big Run on Moravia St. J. R. Lamoree, clk.

Pa., Phila.—(Official)—Until May 15 by W. S. Twining, dir. dept. city transit, 754 Bourse Bldg., additional steel superstructure and appurtenant work to provide station platforms on Frankford Elevated Ry. at Huntingdon St. (Contract No. 520). Noted Apr. 26.

Md., Chestertown—Until May 15 by Kent Co. Comrs. building 200-ft. Crumpton Bridge over Chester River between Kent and Queen Anne's Cos.

S. C., Camden—(Official)—Until May 22 by Co. Comrs. highway bridge over Wateree River; advertised in this issue.

La., Kinder—See "Streets and Roads."

O., Ashland—Until May 21 by County building and permanent replacement of Hostettler and Keever Bridge. L. Westover, clk.

O., Toledo—Until May 15 by F. C. Warner, Hippodrome Bldg., Cleveland, for 6 factory buildings for Toledo Furnace Co., steel. About $50,000.

Minn., Austin—(Official)—Until May 28 by County for 60 bridges. Electric Blue Printing Co., Endicott Bldg., St. Paul, engrs. A. C. White, co. engr. Noted Apr. 12.

Mo., St. Louis—Until May 17 by county for 1 70-ft. steel bridge, 14-ft. roadway on tubular piers, concrete floor; 1—75- and 85-ft steel spans, 14-ft. roadway, concrete, abutment, wing walls. P. W. Locnam, co. highway engr.

Prices and Contracts Awarded

(★Indicates award of contract)

★**N. H., Manchester**—See "Miscellaneous."

★**Pa., Bethlehem**—Bethlehem and South Bethlehem Bridge Comn. let contract temporary bridge over Lehigh River to Horseheads Constr. Co., Horseheads, N. Y., $24,000.

★**N. C., Newton**—Catawba and Caldwell Cos. let contract rebuilding Horseford Bridge over Catawba River to C. W. Requarth Co., Charlotte, $38,000.

★**Minn., Austin**—(Official)—County let contracts 41 bridges as follows: Group 2 to A. Odden, $15,872; Group 4, W. O'Shea & Sons, $16,705; Group 5, and 11, H. F. Garbisch, $14,214 and $16,616, respectively; Group 8, H. L. Griffith, $11,806; Group 13, N. M. Stark & Co., Des Moines, $20,662. Noted Apr. 12.

★**Mont., Dixon**—Northern Pacific Ry. let contract truss bridges to Grant Smith & Co., 1505 Pioneer Bldg., St. Paul.

★**Mo., Kansas City**—(Official)—Bd. Pub. Wks. let contract bridge over Blue River at Leeds to N. Miller, 3112 Highland St., $37,033.

Wash., Seattle—Bd. Pub. Wks. received low bids West Spokane St. bridge from J. A. McEachern Co., Inc., Bell St. Dock, $61,606; J. R. Wood, 621 Valley St., Seattle, $64,788; Puget Sound Bridge & Dredging Co., Harbor Island, $75,589.

Ore., Condon—County received low bid building bridge from Portland Bridge Co., Yeon Bldg., Portland, at $18,960.

REINFORCED CONCRETE

Proposed Work

Conn., Bridgeport—(Official)—Karm Terminal Co., 447 North Washington Ave., soon receives bids 2 large rein.-con. tunnels.

Tenn., Cumberland Springs—L. Motlow, capitalist, who recently purchased Cumberland Springs for pleasure resort, will construct rein.-con. dam across Hurricane Creek, 21 ft. thick, 34 ft. high and 300 ft. long, to form lake. Address B. Clay, Middleton.

O., Marietta—City receiving bids about May 18, 6,000,000-gal. rein.-con. reservoir and water mains. Cost, $100,000. E. F. Gates, city engr.

Cal., Salinas—Salinas Hotel Co. plans rein.-con. hotel. About $200,000. T. W. Lenzen, Humboldt Bank Bldg., San Francisco, archt.

Ont., Windsor—Canadian Pacific Ry. plans rein.-con. bridge over London St. crossing to consist of 3 35-ft. spans. J. M. R. Fairbairn, Montreal, asst. ch. engr.

Bids Desired

Md., Allegany—Until May 15 by State Rds. Comn., 601 Garrett Bldg., Baltimore, 116-ft. rein.-con. arch bridge over 15-mile creek.

Pa., Phila.—(Official)—Until May 22 by W. S. Twining, dir. dept. city transit, 754 Bourse Bldg., concrete track floors, etc.; advertised in this issue.

Pa., Towanda—(Official)—Until May 15 by Co. Comrs. 2-span, rein.-con. deck girder bridge. D. A. Keefe, co. engr.

Ga., Atlanta—(Official)—Until May 24 by M. B. Wellborn, chn., bd. dir., Federal Reserve Bank, rein.-con. bank. About $175,000. A. Ten Eyck Brown, Realty Trust Bldg., archt. Noted Apr. 26.

O., Piqua—Until May 15 by Superior Underwear Co., North Downing St., for 5-story, 67x200-ft. rein.-con. factory. About $100,000. W. E. Russ, Merchants' Natl. Bank Bldg., Indianapolis, archt.

Ind., Mishawaka—(Official)—Until June 4 by A. Wolf, co. audr., South Bend, rein.-con. bridge on Mishawaka Ave. About $85,000. Noted Apr. 19.

Wis., Milwaukee—(Official)—Until May 31 by F. Harbach, secy. school bd., 3-story, 91 x 285-ft., rein.-con. school, Hartford Ave. About $100,000. Van Ryn & DeGelleke, Caswell Blk., archts. Noted Apr. 26.

Mo., Kansas City—Until May 18 by city for steel and rein.-con. viaduct, 876 ft. long, 2—144-ft. through truss spans with 24-ft. roadway and 15-ft. sidewalk, concrete approaches on 4th St. from West Bluff into West Bottoms. About $110,000. J. B. Kane, secy. bd. pub. wks. Wadell & Son, Graphic Arts Bldg., Kansas City, engrs.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Pa., Reading**—(Official)—County let contract rein.-con. bridge over Schuylkill River to Whitaker & Diehl, Union Trust Bldg., Harrisburg. Noted Apr. 5.

★**Pa., Ringtown**—Boro. let contract rein.-con. reservoir and 6- to 8-in. water mains, to Kelly Eng. Co., Buffalo, $12,000.

Pa., Wilkes-Barre—(Official)—County received low bids rebuilding rein.-con. viaduct No. 14 from C. L. Camp, 836 North Irving Ave., Scranton, $82,337; R. D. Richardson Constr. Co., Connell Bldg., Scranton, $88,300; Whittaker & Diehl, Union Trust Bldg., Harrisburg, $111,803. Noted Apr. 19.

Reinforced Concrete (Continued)

Mo., Kansas City—(Official)—Bd. Pub. Wks. let contract building Beardsley St. Trafficway, south of 12th St., comprising several hundred feet rein.-con. retaining wall and sidehill viaduct, to N. Miller, 3112 Highland St., $101,561. Noted Apr. 19.

★**Colo., La Junta**—(Official)—County let contract concrete bridge over Otero Canal to Smith & McDowell, Pueblo. Noted Apr. 19.

★**Cal., Presidio**—County let contract rein.-con. viaduct over Lobos Creek to Cahill & Vonsano, 460 Montgomery St., San Francisco, $20,820.

Cal., San Diego—San Dieguito Mutual Water Co. received following bids: (1) rein.-con. dam, 650 ft. long and 110 ft. high, on Carroll damsite, (a) multiple arch, (b) single arch., (c) rock fill; (2) smaller concrete dam on San Dieguito damsite, (a) Eastwood multiple arch, (b) Jorgenson multiple arch; (3) 4 mi. concrete conduit, from Sharp & Fellows Constr. Co., Central Bldg., Los Angeles, (1a) $182,315, (1b) $299,428, (1c) $486,790, (2a) $29,875, (2b) $44,185; Bent Bros., 825 Central Bldg., Los Angeles, (1a) $141,230, (1b) $139,810, (2a) $29,036, (2b) $37,100, (3) $91,691; J. Engebretsen, San Diego, (1a) $256,780, (1c) $397,285; Duncanson & Harrelson, (1a) $169,815, (1b) $151,252, (1c) $351,937, (2a) $35,595, (2b) $48,790, (3) $87,487. Noted Apr. 19.

STREETS AND ROADS

Proposed Work

Conn., Suffield—Town plans to build 2-mi. concrete highway from Dunn's Corner to Thompsonville Bridge. About $25,000.

N. Y., Rome—Bd. Pub. Wks. soon receives bids paving various streets, brick, asphalt or bitulithic. J. Plunkett, city engr.

N. Y., Schenectady—City rejected bids resurfacing and patching Holland Rd., Frank and State Sts., 3rd Ave. and Hillside Blk. New bids. T. Wooley, 447 Franklin St., city engr.

N. J., Hackensack—County plans to build roads. About $100,000.

N. J., Morristown—County plans to spend $150,000 to build roads.

N. J., Salem—(Official)—Bd. Freeholders receiving bids about June 15, 3½-mi. concrete road, 18-ft. wide, 2 stone shoulders. H. B. Kearby, co. engr.

Pa., Radnor—Twp. Comrs. plan to pave Conestoga Rd. About $70,000.

Va., Farmville—See "Water-Works."

Va., Isle of Wight—County plans to build 70 mi. sand-clay roads. A. S. Johnson, co. clk.

N. C., Asheville—City plans to issue $35,000 bonds to improve streets. B. M. Lee, city engr.

N. C., Elizabeth City—City plans to spend $60,000 to pave streets and lay 2000 sq.yd. experimental concrete pavement on Pennsylvania Ave.

N. C., Pittsboro—County voted $30,000 bonds to build roads, Williams Twp.

Ga., Athens—City plans to spend $20,000 to pave streets, concrete. J. W. Parnett, city engr.

Ga., West Point—City election May 29 to vote on $20,000 bonds to pave, grade, drain or macadamize streets. J. T. Johnson, mayor.

Ala., Clanton—County voted $200,000 bonds to build roads. Noted Apr. 5.

Miss., De Kalb—County soon lets contract 20-mi. macadam and sand clay road, Jackson Highway Dist. No. 2. About $35,000. Noted Apr. 5.

La., Edgard—County plans election in June to vote on $180,000 bonds to build roads.

La., Lake Providence—County voted $100,000 bonds to build roads. C. S. Wyley, secy. police jury. Noted Apr. 19.

La., Opelousas—County election June 5 to vote on $500,000 bonds to build 96-mi. road, Rd. Dist. No. 6.

Tenn., Cleveland—City to let contract in May paving 2½ mi. streets. S. D. Newton, Box 24, city engr.

Tenn., Linden—County plans to build 12-mi. road. O. E. Kirk, clk.

Tenn., Springfield—Co. Comrs. plan election to vote on $150,000 bonds to improve roads.

Ky., Irvine—Co. Comrs. plan to build 8 mi. macadam roads and 50 mi. earth roads. F. Newton, co. judge.

O., Bowling Green—County sold $150,000 bonds to improve roads.

O., Cadiz—(Official)—County soon lets contract paving and grading Tippecanoe Rd. H. R. McCoy, co. highway supt.

O., Dayton—(Official)—County received no bids May 3 paving portion Keowee St., brick, work will be readvertised. W. H. Aszling, co. clk. Noted Apr. 26.

O., Lancaster—(Official)—City rejected bids improving portion Wheeling St. About $13,900. J. Griggs, city engr. Noted Apr. 19.

O., Lebanon—(Official)—City to sell $12,000 bonds May 29 to pay its share toward paving portion Mulberry St. M. E. Gustin, clk.

O., Port Clinton—County plans to build 26-mi. road. J. J. Joyce, co. engr.

Mich., Midland—See "Water-Works."

Wis., Hurley—County plans to spend $45,000 to build earth roads. W. D. Tyler, co. clk.

Ia., Toledo—(Official)—County rejected bids 6-mi. permanent grading, including 50,000-cu.yd. earth work. New bids. Noted Apr. 26.

Kan., Hutchinson—City plans to pave 30,000-yd. Adams St., 4000-yd. 18th St. and 2000-yd. Washington St. G. L. McLane, city engr.

Kan., Topeka—City rejected bids 49,000 yd. brick paving. New bids. A. R. Young, city engr.

Neb., Beatrice—County plans to repair 100-mi. and grade 57-mi. road. E. M. Burnham, co. clk.

Neb, Omaha—See "Structural Steel."

S. D., Miller—County plans to build 60- to 100-mi. road. Address H. Woodruff.

S. D., Sisseton—County plans to crown and gravel 100-mi. road. R. P. Didlake, co. engr.

Mont., Billings—County plans to build 47-mi. gravel roads. J. N. Edy, co. engr.

Mont., Livingston—Co. Comrs. plan to spend $60,000 on highway between Livingston and Gardiner.

Mo., Danville—County voted $35,000 bonds to build 23-mi. road, Mineola Dist.

Ark., Clarendon—County plans to build 23-mi. road, Rd. Dist. No. 1, east and west through Brinkley, forming part Little Rock-Memphis Highway. Parkes Eng. Co., Pine Bluff, engrs.

Ark., Ft. Smith—L. C. Packard, engr., Bates, completed surveys for 140 mi. Albert Pike highway from Waldron to Hot Springs.

Tex., Angleton—County election June 2 to vote on $150,000 bonds to build roads, Rd. Dist. No. 20.

Tex., Archer City—Co. Comrs. plan to issue $60,000 bonds to improve roads.

Tex., Bay City—County sold $36,000 bonds to build road in Precinct No. 8. Noted Apr. 5.

Tex., Beaumont—County plans to issue $700,000 bonds to improve roads. N. J. Graham, co. engr.

Tex., Brownfield—County plans grading and dragging number of roads. G. W. Neill, co. surv.

Tex., Comfort—City voted $40,000 bonds to build roads.

Tex., Lakeview—County plans election to vote on $50,000 bonds to build roads, Lakeview Precinct. Address Co. Clk., Memphis.

Tex., Madisonville—County plans to grade number of roads. H. Browning, co. engr.

Tex., Miami—County plans to spend $30,000 to improve roads. D. B. Stribling, co. engr.

Tex., Van Horn—County plans to build 51 mi. highways. W. P. Thaxton, co. surv.

Tex., Vernon—County election May 19 to vote on $1,000,000 bonds to build roads.

Tex., Weatherford—County defeated $250,000 bonds to improve roads in Justice Precinct No. 1.

Okla., Ada—County plans to build 125-mi. state-aid highway. J. A. Jackson, co. engr.

Okla., Ada—County plans election to vote on bonds to build hard-surface roads.

Okla., Alex—City election May 26 to vote on $28,000 bonds to build roads and bridges.

Okla., Chickasha—County voted $10,000 bonds to build roads, Tuttle Twp.

Okla., Mangum—City soon receives bids paving 3 mi. streets. H. H. Edwards, clk. Noted May 3.

Colo., Boulder—City plans to issue $103,200 bonds to pave streets, Paving Imp. Dist. No. 11. G. R. Joslyn, city engr.

Colo., Denver—State Highway Comn. soon lets contract improving roads. About $1,250,000.

N. M., Tucumcari—County election June 9 to vote on $94,000 bonds to improve roads and build bridges.

Utah, Ogden—City election soon to vote on $100,000 bonds to pave streets. J. M. Tracey, city engr.

Utah, Ogden—County plans to build several miles state-aid roads. J. M. Lentz, co. engr.

Utah, Provo—Official)—County defeated $750,000 bonds to pave roads.

Utah—Salt Lake City—County plans to build 10 mi. state roads. H. G. Clark, co. engr.

Ariz., Holbrook—County voted $160,000 bonds to build roads. R. S. Teeple, clk. bd. supervs. Noted Apr. 19.

Ariz., Yuma—City soon lets contract paving portion Orange Ave., 3½-in. bituminous concrete pavement, 1½-in. bitulithic surface, concrete curbs and gutters, etc. S. F. Stanley, city recdr.

Wash., Everett—County rejected bids building permanent highway No. 29 and Bond Rd. No. 18. New bids. Noted Apr. 26.

Wash., Port Orchard—Co. Comrs. plan election to vote on $300,000 bonds to build trunk road.

Wash., Port Townsend—County plans to build Center Ludlow Rd. and Permanent Highway No. 4. B. O. Bendixen, co. engr.

Ore., Madras—County plans to build new roads, Dist. No. 5. H. Degner, Culver, co. engr.

Cal., Marysville—J. R. Meek, co. surv., submitted report to Bd. Superv. estimating cost of highways in county as follows: Rackerby to Camptonville, 23 mi., gravel, $30,000; Marysville to Smartsville, gravel and oil asphalt, $[illegible]; Marysville-Hammonton Rd., 34 mi., gravel [illegible] oil asphalt, $55,000; Browns Valley to Dobbins, [illegible] mi., gravel, $38,000; Marysville to Gianella, [illegible] mi., gravel, $30,000; Marysville-Oroville [illegible] mi., gravel, $25,000; Wheatland Sect., [illegible] mi., $33,000; 3 permanent bridges and 1 over [illegible] River at Freeman's Crossing will also be included. Noted Apr. 26.

Cal., San Diego—State Highway Comn. plans to pave highway between San Diego and Imperial Valley.

Cal., San Diego—City receiving bids about May 20 concrete paving and curbing, rein.-con. culverts, catch basins, etc., on portions La Jolla Blvd., Prospect St. and Prospect Pl. About $55,000. A. H. Wright, clk.

Que., Levis—Provincial Rd. Dept., Quebec, plans 125-mi. highway from Levis to Fraserville. J. A. Tessier, minister of highways.

Que., Three Rivers—Provincial Rd. Dept., Quebec, soon lets contract 33-mi. highway from Three Rivers to Grand Mere. J. A. Tessier, minister of highways.

Ont., Sarnia—City soon lets contract paving portion London Rd., rein. con. J. A. Baird, city engr.

Bids Desired

R. I., Providence—Until May 16 by State Rd. Pub. Rds. for oil asphalt and heavy tar, in barrels or drums, delivered in state.

Conn., New London—(Official)—Until May 12 by Com. Sts., paving streets, brick. About $[illegible],000. G. K. Crandell, city engr. Noted Apr. 26.

N. Y., Brooklyn—Until May 16 by L. H. Pounds, boro. pres., regulating and repaving with permanent asphalt pavement on 6-in. concrete foundation portions of Boerum Pl., East New York Ave., West 25th, 48th, and 65th St.; regulating, grading, curbing and laying sidewalks on portions 13th Ave. and New Utrecht Rd.; curbing portions 50th St.

N. Y., Long Island City—Until May 16 by M. E. Connolly, boro. pres., Queens Subway Bldg., regulating and grading portions Hart and Madison St.; setting cement curb on portion 130th St.; completing forfeited contract let to W. J. Horrie, July 25, 1916, and curbing and laying sidewalks on portion Thomson Ave.

N. J., Newark—Until May 17 by Bd. Pub. Wks. paving 5200-sq.yd. Prince St., creosoted wood-block, 6-in. concrete foundation, 1700-sq.yd. White Terrace St., asphalt, 6-in. concrete foundation. M. R. Sherrard, city engr.

N. J., Trenton—Until May 23 by City Comn. paving 730-sq.yd. Everitt Alley, 1520-sq.yd. Oxford St., vitr. brick, 5-in. concrete foundation. L. D. Hirsch, clk.

Pa., Narberth—Until May 14 by Boro. paving streets, cement and asphalt, also installing sewers. Albright & Mebus, Land Title Bldg., Phila., engrs.

Pa., Scranton—(Official)—Until May 15 by W. G. Robertson, dir. dept. pub. wks., grading, paving, curbing, etc., portions Green Pl. and Buenzli Ct., also for sanitary sewers in 21st Ward. W. Schunk, city engr.

Pa., Scranton—Until May 15 by county repairing roads. About $50,000.

Pa., Sharpsburg—Until May 14 by T. J. McGivern, boro. clk., paving 4300-sq.yd. North Main St., brick block, concrete base, including 2410 lin.ft. steel protected curb. W. Burns, city engr.

Md., Chestertown—Until May 15 by Co. Comrs. building state aid roads as follows: 3-mi. Ireland's Corner to Massey; 2.21-mi. Still Pond Station to State Rd.; 0.75-mi. through Still Pond village; 0.58-mi. through Betterton. S. Hicks, clk.

S. C., Darlington—(Official)—Until May 18 by City Clk., paving 25,000 to 30,000 sq.yd. streets, brick, asphalt, concrete, sheet asphalt, etc. About $50,000 to $65,000. W. L. Lee, Sumter, engr. Noted Apr. 19.

Fla., Bartow—Until May 26 instead of May 28 as advertised in May 4 issue, paving 302,000 sq.yd. asphalt, and 9 concrete bridges, each 20-ft. spans in Winter Haven Special Rd. and Bridge Dist.; advertised in this issue.

Fla., Palatka—Until May 25 by R. J. Hancock, clk. bd. supervs., for material and paving 29-mi. road, vitr. brick, asphaltic concrete, asphalt block or concrete pavement, with necessary curbs and pipe drainage; also 2 rein.-con. bridges and 5 rein.-con. culverts.

Ala., Montgomery—(Official)—Until May 14 by County for 10,000-cu.yd. gravel at intersection of Long and Orion and Dubin Rd., also 10,000-cu.yd. near Olustee Creek. T. H. Edwards, co. engr.

Ala., Selma—Until May 18 by W. O. Crisman, city engr., paving, curbing and improving Alabama and Selma Ave.

Miss., Charleston—Until May 18 by Co. Highway Comrs. building 21.5-mi. 16-ft. oiled-graveled road. About $200,000 available. A. N. Bullitt, 92 North Tucker St., Memphis, Tenn., engr.

La., Crowley—(Official)—Until June 8 by Bd. Supervs. graveling, draining and grading roads. About $350,000. H. W. Bell, Laurel, Miss., engr. Noted Apr. 26.

Streets and Roads (Continued)

La., **Greenwood**—(Official)—Until May 16 by Police Jury of Caddo Parish, grading and gravel-ing 7½-mi. road in Greenwood; also graveling 8-mi. in Vivian. D. K. Caldwell, Shreveport, co. engr.

La., **Kinder**—(Official)—Until May 22 by Bd. Supvrs. Rd. Dist. No. 2, Calcasieu Natl. Bank Bldg., dredging, grading, grubbing, clearing, drain-ing, bridging and building new highways. L. W. Manuel, pres.

Ky., **Louisville**—Until May 16 by Bd. Pub. Wks. building concrete sidewalks. About $16,000. D. R. Lyman, city engr.

O., **Mt. Gilead**—County receiving bids May 18 for purchase of $107,015 bonds for improving Mt. Gilead-Iberia and Penlan Rds. C. O. Higgins, co. audr.

O., **Orrville**—Until May 21 by A. Jenny, village clk., improving portion South Main St.

O., **Willshire**—(Official)—Until May 15 by G. D. Mercer, village clk., paving 8050 sq.yd. State St., concrete base and curb. About $23,000. L. A. Boulay Co., Toledo, engrs.

O., **Wooster**—(Official)—Until May 15 by Co. Comrs., building Wooster-Burbank Rd.; cost, $26,-818, brick; $22,768, concrete; also building Rittman-Sterling Rd., monolithic brick, $22,078.

Ind., **Elkhart**—(Official)—Until May 15 by Bd. Pub. Wks. paving, curbing and guttering various streets, brick, asphalt, bitulithic, concrete or ma-cadam, about $100,000; also building sewers, about $5000. L. M. Russell, city engr. Noted Apr. 19.

Illinois—(Official)—Until May 16 by State Highway Comn., Springfield, building highways as follows: Carroll Co., Sect. C, earth, 19,000 ft., cost $13,246; Grundy Co., Sect. D, concrete, 6227 ft., $13,152; Jackson Co., Sect. D, bituminous macadam, 6000 ft., $12,078, Sect. E, 2950 ft., $5695, Sect. F, 2750 ft., $5940, Sect. G, 1550 ft., $4658; Montgomery Co., Sect. F, earth, 20,928 ft., $6915, Sect. G, 38,383 ft., $12,935; Ogle Co., Sect. D, concrete, 6800 ft., $18,473; Rock Island Co., Sect. C, concrete, 4475 ft., $9280; Stephenson Co., Sect. E, brick, 600 ft., $18,625; Tazewell Co., brick, 2000 ft., $7046.

Ill., **Berwyn**—Until May 15 by Bd. Local Improv. paving various streets, asphaltic concrete. B. Strutzenburg, city engr.

Ill., **Edgar**—(Official)—Until May 21 by High-way Comrs. building 7920 lin.ft. gravel road on Gordon Bush Rd. or Rd. No. 1, 5280 lin.ft. Wetzel Rd. or Rd. No. 2, and 5280 lin. ft. Wolf Mound Rd. or Rd. No. 3. O. S. Mason, comr.

Ill., **Ottawa**—(Official)—Until May 15 by Bd. Local Improv. paving 48,370-sq.yd., brick on con-crete foundation. About $108,000. G. K. Farnsworth, city engr. Noted Apr. 26.

Wis., **Menasha**—Until May 15 by city paving 1st and 2nd Sts., including 11,478 sq.yd. pave-ment, 11,407 ft. curb and gutter, rein. con., as-phalt or brick. M. McMahon, city engr.

Minn., **Brainard**—Until May 31 by city pav-ing 17 blocks, concrete. A. M. Alborn, clk. Noted Apr. 26.

Neb., **Schuyler**—See "Excavation and Dredg-ing."

Mo., **Kansas City**—See "Reinforced Concrete."

Ark., **Clarksville**—(Official)—Until May 24 by Bd. Comrs. Paving Dist. No. 1 for 15,790 sq.yd. concrete or asphaltic concrete pavement, 8200 ft. curb and gutter and 1200 ft. 12-, 15- and 18-in. storm sewers. Winters & Dove, Ft. Smith, engrs.

Ark., **Jonesboro**—Until May 28 by City Comrs. paving 15-mi. streets. About $360,000. B. Eddlen, city engr.

Idaho, **Rexburg**—(Official)—Until May 16 by A. C. Heath, city clk., paving surfacing and draining streets, also building sidewalks. About $80,000. H. M. Lundborg, city engr. Noted Apr. 5.

Wash., **Montesano**—Until May 21 by Co. Comrs. paving Permanent Highway No. 14, 1 course con-crete, 11,666 lin.ft., 18 ft. wide, also grading, clearing, building culverts and surfacing with gravel 2¼ mi. East Hoquiam Rd. Extension. G. D. Robertson, co. engr.

Cal., **Batavia**—Until May 28 by State Highway Comn., Morum Bldg., Sacramento, 8 mi. concrete highway between Batavia and Putah Creek.

Cal., **Modesto**—Until May 15 by Bd. Superv. concrete paving and grading and building culverts on roads as follows: 3.222 mi. Sect. C, Waterford Rd. from Southern Pacific Ry. east to Roberts Ferry Bridge; 2.882 mi. Hickman-Thalheim Rd. from T. I. D. main canal to Hickman. H. Benson, clk.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Massachusetts**—Massachusetts Highway Comn., Boston, let contracts highways as follows: E. C. Sargent, 29 Adams Blk., Quincy, Norwood-Wal-pole Twp., $7925; Lane Constr. Corp., 37 Colony St., Meriden, Conn., Templeton Twp., $12,956, Orange Twp., $6625, Buckland Twp., $18,580; Marshfield Contr. Co., Marshfield, Cohassett-Marshfield-Scituate Twp., $20,510; Middlesex Contr. Co., Medford, Acushnet-Fair Haven Twp., $51,689; W. F. Loud & Sons Co., Quincy, Brain-tree-Quincy Twp., $11,460; D. O'Connell & Sons, Holyoke, Erving Twp., $24,965; Northampton-Southampton Twp., $38,881; R. F. Hudson Mel-rose Tewksbury Twp., $24,050; B. E. Savage, Dewey St., Worcester, Athol Twp., $13,669; J. McCormick, East Providence, R. I., Dartmouth-Westport Twp., $16,297.

★**Mass., Woburn**—City let contract rebuilding streets to Simpson Bros. Corp., 166 Devonshire St., Boston.

R. I., Providence—(Official)—State Bd. Pub. Rd. received low bids 375,000-gal. asphaltic oil from Standard Oil Co., 26 Broadway, New York City, 9c. per gal.; 450,000 gal. refined tar from Barrett Co., 17 Battery Pl., New York City, 8.8c. per gal. Noted Apr. 26.

★**Conn., Bristol**—(Official)—City let contracts 20,000 lin.ft. road grading, 500,000 sq.ft. gravel road, 230,000 sq.ft. concrete sidewalk, 40,000 lin.ft. concrete curb, 110,000 sq.ft. concrete gutter, also sundry retaining walls, storm-water sewers, etc., to Donfro Bros., North Leominster, Mass., for South Side Sect., and J. P. Maguire, New Britain, for North Side Sect. Noted Apr. 26.

★**Conn., Hartford**—(Official)—Bd. Contract and Supply let contract paving 46,000 sq.yd., sheet asphalt, to E. Balf Co., 26 State St., $99,000. Noted Apr. 19.

N. Y., Albany—(Official)—State Highway Comm., 55 Lancaster St., received low bids, May 1, repairing highways in various counties as fol-lows: Repair Contract No. 1093, Broome Co., Roads Nos. 420 and 5215, N. E. Young, Jefferson-ville, $32,970, C. F. Sullivan, Syracuse, $36,-568; Repair Contract No. 1094, Broome Co., Roads Nos. 275 and 420, Sherman Contr. Co., Inc., One-onta, $14,829; Repair Contract No. 1040, Cayuga Co., Road No. 684, G. Clayton Hill, Fulton, $10,-674; Repair Contract No. 1098, Cayuga Co., Roads Nos. 384 and 752, Brayer Bros., Auburn, $18,-634, Pathfinder Constr. Co., Fulton, $19,592; Re-pair Contract No. 1047, Clinton Co., Road No. 533, Spellman-Oliver Co., Chateaugay, $25,195; Repair Contract No. 1081, Erie Co., Road No. 529, John Johnson Constr. Co., Buffalo, $29,392; Repair Contract No. 1088, Erie Co., Road No. 527, R. Hopkins, Troy, $22,985, Rossney Contr. Corp., Buffalo, $23,445; Repair Contract No. 1097, Erie Co., Road No. 129, Stanley Constr. Co., Buf-falo, $17,782; Repair Contract No. 1105, Erie Co., Roads Nos. 524 and 525, R. Hopkins, Troy, $60,-428; Repair Contract No. 1109, Jefferson Co., Road No. 440, Pathfinder Constr. Co., Inc., Ful-ton, $4952; Repair Contract No. 1108, Jefferson Co. Roads Nos. 425, 1182 and 5266, H. W. Fearl, Potsdam, $4166, Pathfinder Constr. Co., Fulton, $4349; Repair Contract No. 1100, Niagara Co., Road No. 507, C. B. Whitmore Co., Lockport, $51,721, J. Moon, Lockport, $52,650; Repair Con-tract No. 1092, Orange Co., Road No. 156, Schun-nemunk Constr. Co., Highland Mills, $49,720; Repair Contract No. 1104, Orange Co., Road No. 115, Schunnemunk Constr. Co., Highland Mills, $29,978; Repair Contract No. 1107, Orange Co., Roads Nos. 43 and 154, Schunnemunk Constr. Co., Highland Mills, $11,522; Repair Contract No. 1084, Oswego Co., Road No. 5276, Pathfinder Constr. Co., Fulton, $17,159, Rossney Contr. Co., Buffalo, $17,323; Repair Contract No. 1101, Suf-folk Co., Road No. 794, T. Doran, Sr., Hunt-ington, $49,668; Repair Contract No. 1096, West-chester Co., Roads Nos. 405, 519, 520 and 587, J. A. Webb, Salem Center, $6566, Irish & Brad-ley, Yorktown Heights, $6872; Repair Contract No. 1103, Westchester Co., Road No. 503, Granite Contr. Co., Inc., Cohoes, $36,387, L. Petrillo, Mt. Vernon, $36,406, Daly & Merritt, Inc., Port-chester, $37,485. Noted Apr. 26.

N. Y., Brooklyn—(Official)—L. H. Pounds, boro. pres., received low bids regulating, grading, curb-ing and laying sidewalks on portions of (a) Jay St., (b) Park Ave., (c) Sands St., (d) Utica Ave., (e) Plaza space, Water, Pearl, Front and Adams St., from L. H. Friedman, 128 East 123rd St., New York City, (a) $11,769, (b) $21,493, (c) $20,257, (d) $42,729, (e) $14,993; F. J. Gal-lagher, (e) $15,920; Leonard Paving Co., (c) $21,469, (d) $41,664, (e) $15,994. Noted Apr. 26.

★**N. Y., Islip**—(Official)—C. D. Schlemmer, supt. highways, let contract paving 2900 cu.yd. con-crete and 3000 sq.yd. warrenite resurfacing to Lotito & Romeo, Patchogue, $36,329. Noted Apr. 26.

N. Y., Long Island City—(Official)—M. E. Con-nolly, boro. pres., received low bids, May 7, improving portions Van Alst Ave. from Franklin Contr. Co., 52 Vanderbilt Ave., New York City, $14,084; Queens Blvd. from J. McAvoy, 820 Bergen St., Brooklyn, $38,737. Noted May 3.

★**N. Y., Patchogue**—Village let contract build-ing concrete roads on Main St., North Ocean and Railroad Ave. to Molloy & Murray, Saw Mill River Rd., Yonkers. About $51,306.

★**N. Y., Rochester**—City let contract cement sidewalks and asphalt paving to Whitmore, Rau-ber & Vicinus, 279 South Ave., $50,000.

★**N. Y., Southampton**—Village let contract pav-ing Main St. and Jobs Lane, warrenite, to Warren Bros. Co., 50 Church St., New York, $50,000.

★**N. J., Bayonne**—Bd. Comrs. let contract pav-ing 58,000 sq.yd. streets, asphalt, to W. T. S. Critchfield, 2 Greene St., Jersey City. Noted May 4.

★**N. J., Newark**—Bd. St. and Water Comrs. let contract paving portions North Munn and Sunset Ave., bitulithic, 6-in. concrete base, to Standard Bitulithic Co., 31 Clinton St., $13,979 and $12,858, respectively; paving, grading, curbing and flag-ging portion Woodlawn Ave. to Newark Paving Co., 133 1st St., $15,079.

★**N. J., Trenton**—(Official)—Bd. Freeholders let contract repairing Greenwood Ave. and Lawrence-ville Rd. to C. A. Reed & Co., 623 Monmouth St., Trenton, $10,921.

Pa., Harrisburg—State Highway Dept. received low bids road work in counties as follows: Dau-phin Co., 1270 ft., vitr. brick, concrete base, Stucker Bros. Constr. Co., Russ Bl., Harrisburg $19,949; Cambria Co., Route 42, 32,923 ft., G. T. Morgan, Johnstown, $171,412; J. L. Elder, Center St. Ebensburg, $183,425; Allegheny and Washing-ton Co., 36,170 ft., S. Gambel Co., Carnegie, $270,-474. Noted Apr. 26.

★**Pa., Hazelton**—City let contract to pave and curb portion Juniper St. to J. Leffler, Wyoming and Holley Sts.

★**Pa., Pittsburgh**—City let contract improving Bigelow St. to M. O'Herron Co., South 1st and McKean St., $66,427.

★**Pa., South Bethlehem**—City let contracts about 75,000 sq.yd. paving, brick, asphalt, bitu-lithic, macadam and concrete, to Freeland Con-struction Co., D. McNeil & Co., Manwaring & Cummings, 5622 Germantown Ave., Phila., and R. S. Rathbun, Hun Blk., Allentown. Total cost, $151,698. Noted Apr. 5.

★**N. C., Beaufort**—(Official)—City let contract 10 mi. cement sidewalks to J. L. McGehee Contr. Co., Topton. Noted Apr. 5.

★**N. C., Lenoir**—(Official)—City let contract 35,000 sq.yd. bitulithic paving, 10 mi. cement sidewalks and 22 mi. storm sewers to Ely Constr. Co., Charlotte, $86,733.

★**Miss., Brookhaven**—County let contract 19.7 mi. roads, Dist. No. 4, to Middleton & Smith, Brookhaven. About $37,941. Noted Apr. 26.

★**Tenn., Centerville**—Highway Comm. let con-tract grading 40-mi. road to Brown & Rawlinson, Montgomery, Ala., $80,000.

★**O., Bexley**—(Columbus post office)—Village let contract paving, grading and curbing various streets, also installing sewers, to Cleveland Trin-idad Paving Co., 420 Lakeside Ave., Cleveland, and S. T. Knight, 487 Oak St., Columbus, $41,739.

★**O., Cincinnati**—Bd. Control let contract oil-ing streets in 1st and 3rd Dists., macadam, to Citizens Road Preserving Co., 4 Temple Ct., $0.0575 per sq.yd.

★**Mich., Bessemer**—(Official)—Co. Rd. Comrs. let contract clearing, grubbing and grading 5-mi. road to M. Maki, Bessemer, $18,745. Noted Apr. 26.

★**Illinois**—(Official)—State Highway Comm., Springfield, let contracts road work as follows: Massac Co., Sect. D, Route 3, to Q. Martin, Metropolis, $1538; Jersey Co., Sect. F, Route 6, E. Conners, Jerseyville, $4871; Marshall Co., Sect. E, Route 1, D. M. Dean, Lacon, $11,986.

★**Ill., Lincoln**—City let contract paving various streets, brick and creosoted block, to H. K. Rhodes & Co., $48,803.

★**Ia., Pocahontas**—County let contract grad-ing 43 sections county roads, including 110,000 cu.yd. excavation, to E. Peterson Co., 1402 Wood-men of World Bldg., Omaha, 29.95c. per cu.yd.

★**Minn., Morris**—City let contract paving streets to S. Loher, Chokio, $13,331.

★**Kan., Topeka**—City let contract paving streets, asphaltic concrete, to Security Paving Co., 236 Lathrop Bldg., Kansas City, Mo., $107,738; re-surfacing Topeka Ave., asphaltic concrete, to Kaw Paving Co., Topeka, $37,146.

★**Wash., Chehallis**—County let contract 1-mi. road north of Centralia to Hendricks & Ward, Centralia, $13,400. Noted Apr. 12.

★**Wash., Pasco**—County let contract paving Elgin Rd. to Porter & Conley, Portland, Ore., $11,000.

★**Wash., Walla Walla**—City let contract pav-ing Valencia and Howard St. to Warren Constr. Co., Journal Bldg., Portland, $14,500. Noted Apr. 12.

Ore., St. Helens—County received low bids 8840 sq.yd. hard surface pavement conecting St. Helens and Houlton, from Warren Constr. Co., Journal Bldg., Portland, bitulithic, $1.48 per sq.yd. with 50c. cu.yd on common earth excava-tion and $2.50 per cu.yd. on solid rock excavation; Montague-O'Reilly Co., Blake McFall Bldg., Port-land, asphaltic concrete, $1.38 per sq.yd., 50c. cu.yd. common earth excavation, $2 per cu.yd. solid rock excavation; E. J. Mills, St. Helens, concrete, $1.36 per sq.yd., 6-in. thick; Lees Dock Co., St. Helens, $1.60 per sq.yd.

★**Ore., The Dalles**—County let contract paving Chenowith-Petersburg Highway to Wolf & Gib-bons, Washougal, Wash., $26,178.

★**Cal., Presidio**—County let contract building highway to O. McHugh, Russ Bldg., San Francisco, $26,859.

★**Cal., Richmond**—City let contract improving South Wall and 41st Sts. to G. W. Cushing, 420 Macdonald Ave., $23,806.

★**Cal., San Mateo**—City let contract paving streets, Haywood Park Dist., to Federal Constr. Co., Sharon Bldg., San Francisco, $103,715.

★**Cal., Warner Springs**—Federal Forest Bureau let contract 9.4-mi. road, Cleveland National For-est, to C. L. Hyde Constr. Co., Spreckles Bldg., San Diego, $11,936.

★**Ont., Woodstock**—City let contract paving Ridell St., asphalt, to Warren Bituminous Pav-ing Co. of Toronto, Ltd., Toronto, $2.08 per sq.yd.

RAILWAYS—STEAM AND ELECTRIC

Proposed Work

Pennsylvania—East Berlin R.R. plans extending line from East Berlin to Hanover or York. U. L. Glatfelter, East Berlin, pres. and gen. mgr.

Pennsylvania—Phila. Electric Co., 1000 Chestnut St., Phila., plans siding and cable railway at power plant on Christian St. About $45,000. A. J. DeCamp, mgr.

West Virginia—Appalachian Power Co. (Bluefield Div.) plans extending line from Bluefield touching about 40 towns in vicinity, covering distance of 50 mi. H. Markle, Bluefield, gen. mgr.

South Carolina—South Carolina Light, Power and Railways Co., plans to extend line from Spartansburg to Whitney and will reconstruct part of Clifton line. F. H. Knox, 33 Morgan Sq., Spartansburg, vice-pres. and gen. mgr.

Florida—South Florida Interurban Ry. filed charter with Secy. of State of Florida for electric railway from Melbourne west to Haines City, north to St. Cloud, Orlando and Sanford, thence west through Marion, Lake and Citrus Cos. on west coast, entering Tampa from north and finally completing loop at Haines City. W. Hall, St. Cloud, secy.

Kentucky—Elk Fork Ry., recently incorporated with $25,000 capital stock and debt limit of $1,000,000, plans 40-mi. railway in Morgan and Elliott Cos. W. S. Whiting, Elizabethtown, Tenn.; H. M. Collins, Frankfort; W. R. Snyder, W. H. Porter and J. F. Caywood, Lexington, interested.

Ohio—Cleveland, Painesville & Eastern R.R., Willoughby, asked permission of Pub. Utilities Comn. of Ohio to issue $68,000 bonds to extend and improve its system. J. Jordan, vice-pres., gen. mgr. and pur. agt.

Ohio—Lake Shore Electric Ry., Electric Bldg., Cleveland, applied to Pub. Utilities Comn. of Ohio for permission to issue $51,000 bonds for improvements. L. K. Burge, Sandusky, gen. supt.

Ohio—New York Central R.R. (Lines West of Buffalo) will lay 20 mi. new tracks, roundhouse, switches, crossovers, signal and interlocking system at Coalburg (Hubbard P. O.). G. C. Cleveland, St. Clair Ave. and West 3rd St., Cleveland, ch. engr.

Indiana—Ft. Wayne & Decatur Traction Co., Studebaker Blk., Decatur, asked permission of Pub. Ser. Comn. of Indiana to issue $100,000 bonds for extensions and improvements. A. M. Fishbaugh, Celina, O., ch. engr.

Kansas—Wichita-Walnut Valley Interurban Ry., recently organized with $1,000,000 capital stock, plans electric railway from Wichita to oil fields in Butler Co., either from Wichita to Eldorado, via Augusta or through Andover, Benton and Towanda to Eldorado. Company plans to begin construction in few months. J. H. Butts, 219 East 1st St., Wichita, pres. L. S. Naftzger, 1055 North Lawrence Ave., Wichita, treas.

Missouri—See "Sewers" under St. Louis.

Idaho—Chicago, Milwaukee & St. Paul Ry. plans extending line from Elk River into great white pine belt, tributary to Clearwater River, and to Weippe, 80 mi. Company will build dam on north fork of Clearwater River at Big Island, to form storage reservoir and for generating electric power. C. F. Loweth, Railway Exchange Bldg., Chicago, ch. engr.

California—Atchison, Topeka & Santa Fe Ry. (Coast Lines) plans 5½-mi. railway from its Perris-Riverside Line into Morengo Valley. G. W. Harris, Kerchhoff Bldg., Los Angeles, ch. engr.

Ontario—Hydro-Electric Power Comn., Continental Life Bldg., Toronto, completed surveys line from Welland to Port Colborne and Bridgeburg. About $10,000,000. F. A. Gaby, ch. engr.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Oregon**—Klamath Falls Municipal Ry. let contract line from 2nd St. and Klamath Ave., Klamath Falls, to Dairy, Ore., 20 mi., to R. E. Strahorn, Northwestern Bank Bldg., Portland, $300,000.

EXCAVATION AND DREDGING

Proposed Work

Ky., Morganfield—Drainage—Truman Drury, and associates, plan underground tile drainage (gridiron) system to drain 400 acres farming land in Union Co.

Minn., Ada—Ditches—County will sell $235,000 bonds on May 15 for Judicial Ditches Nos. 53 and 54. D. E. Fulton, co. aud.

Minn., Minneapolis—Creek Improvements—City granted permission by State Legislature to issue $150,000 bonds for straightening and improving Bassett's Creek. F. W. Cappelin, city engr.

Mo., St. Louis—Reclamation—See "Sewers."

Tex., San Benito—Irrigation—H. Heywood, secy. Cameron Co. Irrigation Dist. No. 2, will soon receive bids 750,000 cu.yd. earth removal.

Wash., Prosser—Irrigation—R. H. Thomson, J. H. Kane, A. J. Wise and R. B. Williamson, comrs. Horse Heaven Irrigation Dist., approved plans prepared by O. Laurgaard, engr., Railway Exchange Bldg., Portland, for district, to cost $15,000,000.

Cal., El Centro—(Official)—Irrigation—W. H. Holabird, engr., 318 Land Title Bldg., Los Angeles, advises that final surveys will be completed about August for collection of several mountain streams in San Jacinto Mts. for bringing water from Whitewater River into Coachilla Valley for irrigation. Bids will then be received. Noted Apr. 12.

Cal., Sacramento—Channel Improvements—State Assembly passed bill appropriating $500,000 to be used with like sum to be allotted by Federal Government for widening, deepening and straightening of channel in lower part of Sacramento River.

N. B., St. John—Excavation, Etc.—City soon receives bids excavation and backfill for waterpipe extension on Manawagonish Rd., also waterpipe line from Loch Lomond to city.

Ont., Hepworth—Drainage—Town Council plans drainage system. W. R. White, clk.

Bids Desired

N. Y., Brooklyn—Dredging—Until May 16 by L. H. Pounds, boro. pres., dredging Gowanus Canal from its head to Hamilton Ave.

N. J., Ogdensburg—See "Waterworks."

Ind., Petersburg—Ditch—Until May 18 by J. H. Chappell for 8-mi. dredge ditch with necessary laterals in Flat Creek D. D. No. 1. W. H. Ault, secy.

Ia., Ft. Dodge—Drainage—Until May 24 by Webster Co. for County Drain No. 227. About $23,997. A. J. Peterson, co. aud.

Minn., Benson—(Official)—Ditch—Until May 25 by Swift Co. for Judicial Ditch No. 5, consisting of 153 mi. tile, 6-in. to 30-in.; 29 mi. open work, 1,600,000 cu.yd. S. B. Gardner, Benson, engr.

Minn., Duluth—(Official)—Ditch—Until May 16 by Co. Aud. for Ditch No. 10, involving 3.16 mi. right-of-way; excavating 25,618 cu.yd. ditch; cleaning out 0.28 mi. creek and 2 steel bridges. Noted May 3.

Minn., Elk River—Ditch—Until May 18 by Sherburne Co. for County Ditch No. 19, about 58,008 cu.yd. excavation on main ditch and 42,238 cu.yd. excavation on branches. Cost, $12,475. A. Robinson, co. aud.

Minn., Fairmont—Ditch—Until May 15 by County for Judicial Ditch No. 73, about $31,378. H. C. Nolte, co. audr.

Minn., Minneapolis—(Official)—Dredging—Until May 14 by Co. Comrs. dredging Lake Minnetonka. A. P. Erickson, co. aud.

Neb., Schuyler—(Official)—Drainage—Until May 18 by H. Fletcher, co. clk., for excavation of drainage ditch and road improvements, involving 95,200 cu.yd. excavation, 60,400 cu.yd. road improvement, 3000 cu.yd. clean out old ditch. About $31,000.

S. D., Clear Lake—(Official)—Drainage—Until May 22 by J. H. Lunde, chn. bd. co. comrs. for Anderson D. D. about 4½ mi. long, average depth, 9 ft. involving 130,000 cu.yd. excavation. Noted Apr. 26.

Okla., Oklahoma—Excavation, etc.—Until May 15 by Bd. Comrs., City Hall, West Main St. excavating and concreting clear well at waterworks, Sect. "K." C. F. Semmelbeck, clk.

Ore., Ontario—Drainage—Until May 17 by Secy. Malheur D. D., drainage system, involving 3-mi. open drain and 60,000 lin. ft. treated wood box covered drain.

Prices and Contracts Awarded

(★Indicates award of contract)

★**N. H., Manchester**—Drainage—See "Miscellaneous."

★**Ia., Algona**—Drainage—County let contract Drain No. 32 to Thomas & Sweet, $22,000, open work; Graettinger Tile Wks., $75,000, tile.

★**Minn., Ada**—Ditch—County let contract County Ditch No. 41 to M. Braunsberg, Bear Park, 12c. cu.yd; culverts to P. H. Hanson.

★**Minn., Montevido**—Ditch—County let contract Judicial Ditch No. 6 to C. Sutcliffe, Litchfield, open work, and Olson & Johnson, Minneapolis, tile. Total cost, $30,000.

★**Minn., Warren**—Ditch—Marshall Co. let contract County Ditch No. 25 to Northwestern Drainage Co., Thief River Falls, 9¼c. cu.yd.

Cal., San Diego—Dam—See "Reinforced Concrete."

INDUSTRIAL WORKS

Proposed Work

Conn., Hartford—Colt's Patent Firearms Mfg. Co., Vandyke Ave., plans saw-tooth, 1-story, 171 x 500-ft. factory to run parallel with its south armory and be devoted to U. S. Government work.

N. Y., Brooklyn—Cronk Works of Natl. Lead Co., 135 Marshall St., plans 4-story, 50 x 228-ft. plant. About $90,000.

N. Y., New York—New York Butchers' Dressed Meat Co., 11th Ave. and 39th St., plans 6-story, 100 x 125-ft. warehouse and refrigerating plant. B. C. Clark, c/o Armour & Co., Union Stock Yards, Chicago, archt. and engr.

Pa., Chester—Chester Paper Co., Chester, will build 3-story, 118 x 256-ft. finishing building.

Pa., Gettysburg—Gettysburg Ice and Cold Storage Co. plans cold-storage plant. About $60,000. Q. Hafer, archt., 155 Garfield St., Chambersburg, prepared plans.

Pa., Homestead—Homestead Valve Mfg. Co., 134 6th Ave., plans 2-story, 97 x 112-ft. factory. About $60,000. A. G. Wickerham, archt., 601 McClure St., soon receives bids.

Pa., Phila.—Treen Box Co., Tioga and Memphis Sts., plans 3-story addition. W. E. Sayer, archt., 1517 Land Title Bldg., soon receives bids. Noted Apr. 19.

Pa., Williamsport—U. S. Sand Paper Co., 1560 Erie Ave., plans 2-story, 100 x 250-ft. addition. F. A. Rienhard, archt., Masonic Temple Bldg., soon receives bids.

Va., Winchester—Winchester Cold Storage Co., Farmers' and Merchants' Natl. Bank Bldg., plans 3-story, 170 x 200-ft. cold-storage and ice-manufacturing plant. About $200,000. S. Edmunds, archt., Farmers' and Merchants' Natl. Bank Bldg., prepared plans.

O., Cincinnati—Banner Baking Co., Stanton Ave. and Oak St., will build 2-story addition. About $50,000.

O., Cleveland—Atlas Brass Mfg. Co., 332 Lakeside Ave., plans 3-story factory at East 34th St. and Superior Ave. Christian-Schwartzenberg & Gaede Co., archts., 1900 Euclid Ave., prepared plans.

O., Cleveland—F. J. Chapple, 501 Republic Bldg., plans 4-story, 100 x 100-ft. warehouse on Wooldridge Ave.

O., Cleveland—Chicago Pneumatic Tool Co., East 49th and Lakeside Sts., will soon let contract for 3-story, 100 x 350-ft. factory on East 37th St. Allen-Osborne Co., archts., Rose Bldg., prepared plans.

O., Cleveland—Erie Dock Co., West 25th St., will soon let contract factory buildings. About $50,000. F. C. Warner, Hippodrome Bldg., archt.

O., Cleveland—Standard Oil Co., 1851 Euclid Ave., preparing plans oil plant. About $300,000.

O., Cleveland—Winton Engine Co., 2116 West 106th St., will build 1-story, 99 x 358-ft. brick addition to plant. About $75,000.

O., Coalburg—(Hubbard P. O.)—See "Railways."

O., Pittsburg—Rollin Chemical Co., South Charleston, plans to build 5 additional buildings and install equipment. About $6,000,000.

O., Toledo—Toledo Bread Co., 2121 Canton St., purchased site at Summit and Elm Sts. and plans bakery. About $100,000.

O., Toledo—Toledo Machine & Tool Co., 1736-44 Door St., purchased 100 acre site and plans factory. About $100,000.

O., Warren—Liberty Steel Co., Western Reserve Bank Bldg., preparing plans steel plant and warehouse. About $600,000. E. E. Clark, pres.

O., Whitehouse—Page Dairy Co., Page and Knapp Sts., soon receives bids 2-story, 60 x 120-ft. plant. About $60,000. Devore & McGormley, 384 Nasby Bldg., Toledo, archts. Noted Apr. 12.

Mich., Ann Arbor—(Official)—Hoover Steel Ball Co. will build 3 brick and concrete additions and equip same with machinery to increase the output. Company will spend about $250,000 during year on expansions. J. J. Hoover, vice pres. and gen. mgr.

Mich., Detroit—W. H. Traves, 264 West High St., plans 9-story, 58 x 158-ft. light manufacturing and mercantile building. About $150,000.

Ill., Chicago—Kosher Star Sausage Mfg. Co., 1010-1012 Maxwell St., plans 2-story, 50 x 100-ft. addition. W. L. Hoffman, Jr., archt., 144 West 47th St., soon receives bids.

Ill., Chicago—Peacock Estate, c/o E. N. Brydges, archt., 64 East Van Buren St., revising plans 3-story, 100 x 110-ft. factory.

Wis., Sheboygan—Badger State Tanning Co. retained Juul & Sixta, archts., Imig Bldg., to prepare plans 4-story brick and rein.-con. warehouse and office building.

Mo., Vandalia—(Official)—Walsh Fire Clay Products Co. retained Unit Constr. Co., engrs., Title Guaranty Bldg., St. Louis, to design and build industrial village at plant in Vandalia. Cost about $500,000.

Ark., Truman—(Official)—Truman Cooperage Co., Truman, retained Unit Constr. Co., engrs., Guaranty Bldg., St. Louis, to design and build plant here. Plans include jointer buildings, heading mill, warehouse, stave dryers, etc. About $150,000.

Tex., Dallas—Hamilton-Carhartt Overall Co., 10th and Michigan Sts., Detroit, will build plant in Dallas. About $100,000. J. R. Bustin, local mgr.

Tex., San Antonio—Armour & Co., Union Stock Yards, Chicago, will build cold-storage plant here. About $100,000.

Utah, Provo—Utah Ry. plans to spend $75,000 for improvements here, including 4-stall engine house, cinder pit, 200-ton coal bin, 100-ft. turntable and steel water tank. O. J. Egleston, Salt Lake City, vice-pres. and ch. engr.

Bids Desired

O., Piqua—See "Reinforced Concrete."

O., Toledo—See "Structural Steel."

Prices and Contracts Awarded

(★Indicates award of contract)

★**N. Y., Brooklyn**—R. Leoninger, 1044 Park Ave., let contract factory to Faribault Bldg. Co., 52 Vanderbilt Ave., New York City, $180,000. Noted May 3.

Industrial Work (Continued)

★N. Y., **Brooklyn**—(Official)—Pub. Ser. Comn. for 1st Dist. approved award made by New York Municipal Railway Corp. of Brooklyn to A. Pasquini, 30 East 42nd St., New York City, for new Ridgewood substation to be used in connection with furnishing current for operation of 14th St.-Eastern line and other new rapid-transit lines in Brooklyn. Cost, $59,900.

★N. Y., **New York**—Parker Realty Co., Newburgh, let contract brick and rein.-con. garage, 533-535 West 27th St., to Ruggles-Robinson Co., 331 Madison Ave., $50,000.

★N. Y., **Rochester**—Gleason Wks., 1000 University Ave., let contract heat-treating building and addition to power house to A. Hopeman & Sons Co., 569 Lyell Ave.

★N. J., **Newark**—M. Damm, 83 Greene St., New York City, let contract 4-story leather factory on St. Francis St. to J. J. O'Leary Co., 810 Broad St., about $51,500.

★N. J., **Red Bank**—Sigmund Eisner Co. let contract 3-story addition to Turner Concrete Steel Co., 1713 Sansom St., Phila.

★O., **Cleveland**—Standard Equipment Co., Schofield Bldg., let contract plant, Lorain and West 106th St., to S. Austin Constr. Co., 14,230 Euclid Ave., about $150,000.

★O., **Lorain**—Lorain County Electric Co. let contract boiler and power house to Utilities Constr. Co., $400,000.

★Ind., **Indianapolis**—Fairbanks-Morse Elec. Mfg. Co., 2102 Northwestern Ave., let contract addition to Bedford Stone and Constr. Co., Fletcher Savings and Trust Bldg., $83,000.

★Ill., **Chicago**—O. Heineman Co. will build 4-story factory, 1935-45 North Fairfield Ave., by day labor. About $160,000. Noted May 3.

★Ill., **Chicago**—Victor Electric Co., 2000 West Jackson Blvd., let contract brick factory, 218-228 South Robey St., to E. W. Sproul Co., 1120 West 35th St., $100,000.

★Ill., **Dixon**—Illinois Northern Utilities Co., 421 1st St., let contract steam electric plant to Adams Constr. Co., 137 South La Salle St., Chicago, $300,000.

★Wis., **Milwaukee**—Wisconsin Motor Mfg. Co., 44th Ave. and Burnham St., let contract addition to Fuldner Constr. Co., Majestic Bldg., $60,000. Noted Apr. 5.

★Neb., **Omaha**—M. F. Shafer & Co. let contract 5-story printing plant to Olson & Johnson Co., 638 1st Natl. Bank Bldg. About $125,000. Noted Apr. 5.

★Cal., **Emeryville**—Parafine Paint Co. let contract 4 factory buildings to Clinton Constr. Co., 140 Townsend St., San Francisco, $84,000.

★Ont., **Toronto**—Canadian Aëroplanes, Ltd., Dufferin St. and Lappin Ave., let contract brick storage building to Dickie Constr. Co., Ryrie Bldg., $50,000.

BUILDINGS

Proposed Work

Me., Gardiner—(Official)—High School—Supt. of Schools will receive bids in about 6 weeks. About $70,000. H. S. Coombs, 11 Lisbon St., Lewiston, archt. Noted Apr. 26.

Mass., Boston—Dormitory—Hebrew Ladies Home for Aged, 21 Queen St., has had plans prepared by M. M. Kalman, archt., 43 Tremont St., 3-story, 30 x 100-ft.

Mass., Boston—Court House—Pub. Bldg. Dept., 802 City Hall, having plans prepared by T. G. O'Connell, archt., 18 Boylston St., 2-story, 100 x 100 ft.

Mass., Melford—High School—Bd. Educ. having plans prepared by M. A. Dyer, archt., 7 Water St., Boston, 2-story, 160 x 160-ft. About $200,000.

Mass., Worcester—Hospital—Memorial Hospital, c/o Fuller & Delano Co., archts., 44 Front St., has had plans prepared, 2-story.

Mass., Worthington—Hotel—Worthington Inn has had plans prepared by Putnam & Taylor, archts., 78 Main St., Northampton, 4-story addition. About $75,000.

Conn., Bridgeport—Home—Bridgeport Christian Union Bldg., Co. having plans prepared by E. B. Caldwell, Jr., archt., 509 First Bridgeport Natl. Bank Bldg., 4-story, 87 x 100-ft. About $60,000.

N. Y., Brooklyn—Brooklyn Training School for Girls, 1483 Pacific St., plans home consisting of main building, administration building and school, 2- and 3-story, brick and rein.-con. About $100,000. Ludlow & Peabody, archts., 101 Park Ave., New York City, completing plans.

N. Y., Castleton—High School—Bd. Educ. has had plans prepared by Loth & White, archts., 130 State St., Albany, 3-story, 42 x 100-ft. About $50,000. H. Folmsbee, pres. Noted Apr. 12.

N. Y., Lackawanna—Y. M. C. A. plans brick building. About $75,000. A. H. Whitford, Ellicott Sq., Buffalo, chn. bldg com.

N. Y., New York—East Side Branch Y. M. C. A., 152-162 East 87th St. and 153-155 East 86th St., plans building. About $400,000. Trowbridge & Ackerman, 62 West 45th St., archts.

N. Y., New York—Theater—188th St. and Washington Ave. Co., Inc., has had plans prepared by E. L. Larkin, archt., 259 West 34th St., 1-story. About $80,000. E. J. Doling, 80 Maiden Lane, pres.

N. Y., Niagara Falls—Police Station—Bd. Pub. Wks., c/o G. Whitehead, has had plans prepared by Wright & Kremers, archts., 406-8 Gluck Bldg., 3-story, 60 x 66-ft. About $60,000.

N. Y., Olean—Armory—State Armory Comn. receiving bids about June 1. Cost, $300,000. F. W. Ward, 158 State St., Albany, secy. L. F. Pilcher, Capitol, Albany, archt.

N. Y., Troy—Armory—State Armory Comn. receiving bids about June 1. About $100,000. F. W. Ward, 158 State St., Albany, secy. L. F. Pilcher, Capitol, Albany, archt.

N. Y., Wynantskill—Sanitarium—County having plan prepared by Pember & Campaigne, archts., Illium Bldg., Troy. About $109,000. T. H. Curry, Ford and Fonda Ave., Troy, chn. bd. supervs.

N. J., Atlantic City—Hotel—Royal Place Hotel, c/o S. Hanstein, Pacific Ave. and Beach, has had plans prepared by H. A. Jacobs, archt., 320 5th Ave., New York, 8-story addition.

N. J., Morristown—Hospital—Morristown Memorial Hospital, Morris St., retained Palmer & Hornbostle, archts., 63 William St., New York City to prepare plans. About $60,000.

N. J., Princeton—Auditorium—Bd. Educ. has had plans prepared by R. A. Schuman, archt., 932 Lambert St., Trenton, 2-story. About $50,000. J. W. Anderson, pres.

N. J., Weehawken—School—West New York Town Council voted $67,000 appropriation for addition to School No. 5.

Pa., Phila.—Church—West Walnut Street Presbyterian Congregation soon lets contract 1-story addition. About $100,000. E. F. Smith, Commonwealth Bldg., chn. bldg com. Watson & Huckel, 1211 Walnut St., archts.

Pa., Phila.—Hospital—Mt. Sina Hospital, c/o J. Gemin, 9th and Chestnut St., soon lets contract, 3-story, 63 x 82-ft. Porter & Magaziner, 603 Walnut St., archts.

Pa., Phila.—Sanitarium—Bella Vista Sanitarium, c/o H. L. Randall, has had plans prepared by H. L. Reinhold, archt., 1309 Walnut St., 2 story.

Pa., Sharon—(Official)—Church—1st Presbyterian Congregation will receive bids in fall. About $100,000. C. E. Owsley, Mahoning Bank Bldg., Youngstown, archt. Noted Apr. 26.

Pa., Uniontown—Y. M. C. A. having plans prepared by H. W. Altman, archt., 1st Natl. Bank Bldg., 4-story, 76 x 90-ft. About $150,000. D. M. Ilertzog, pres.

Pa., Yeadon—School—Bd. Educ. having plans prepared by P. A. Davis, archt., 1715 Sansom St., Phila., 2-story, 60 x 120-ft. About $65,000. T. H. Dann, pres.

Md., Hagerstown—Y. M. C. A. plans new building. About $150,000.

Wash., D. C.—Church—St. Paul's Congregation having plan prepared by Murphy & Olmstead, archts., 1413 H St., N. W., 1-story. About $50,000. J. F. Machlin, 1425 V St., N. W., pastor.

Va., Suffolk—(Official) — Hotel — Nansemond Hotel is having plans prepared by R. E. Mitchell, archt., Norfolk, for 4-story hotel in Suffolk, not Norfolk, Va., as stated in our issue of Apr. 26. About $150,000.

W. Va., Moundsville—Schools—Bd. Educ. election May 15 to vote on $165,000 bonds to build 4 schools. E. B. Franzheim, Schmulbach Bldg., Wheeling, archt. W. W. Garvin, pres. Noted May 3.

W. Va., Wheeling—Home—County lets contract about May 20. Cost, $65,000. E. F. Haller, courthouse, comr. F. F. Faris, Schmulbach Bldg., archt.

W. Va., Winding Gulf—School and Church—Winding Gulf & Colliery Co. soon lets contract, 1-story. About $50,000.

Tenn., Memphis—Hospital—Tri-State Baptist Hospital plans 8-story, 70 x 110-ft. addition. About $75,000. H. J. Harker, archt., Sawyer Bldg., St. Louis, Mo., prepared plans.

O., Cincinnati—Dormitory—University of Cincinnati Alumni Assn., c/o Stegner & Hughes, archts., Commercial Tribune Bldg., plans, 4-story. About $150,000.

O., Cincinnati — Chapel — Christ Episcopal Church plans, 2-story, brick and stone, East 4th St. About $50,000.

O., Cincinnati—Club—Business Men's Club, 9th and Race Sts., is having plans prepared by S. Hannaford & Sons, archts., Hurlbert Blk., 7-story, 90 x 200-ft. About $600,000. F. W. Galbraith, Jr., pres.

O., Cincinnati—Temple and Cathedral—Combined Masonic Lodges having plans prepared by H. Hake and C. Kuck, archts., Telephone Bldg., 3-story, 80 x 400-ft. About $300,000. W. Harte, 2257 Buck St., secy. com.

O., Cleveland—Church—St. Casimir Congregation, Sowinski Ave., soon lets contract, 95 x 120-ft., brick and steel, East 82nd and Pulaski Sts. About $175,000. W. C. Jansen, archt., 403 O'Brien Bldg., prepared plans.

O., Cleveland—School—Bd. Educ., East 6th St. and Rockwell Ave., soon receives bids, 3-story, 75 x 175-ft., Gladstone Ave. About $200,000. W. R. McCormack, archt., East 6th St. and Rockwell Ave., prepared plans.

O., Cleveland—Library—A. D. Hamlin, archt., 105 Morningside Ave., New York, soon receives bids for Cleveland Public Library, Williamson Bldg. About $2,000,000.

O., Cuyahoga—School—Bd. Educ. plans election to vote on $50,000 bonds to build school additions. A. Higgs, 60 East Portage St., pres. Knox & Elliott, Rockefeller Bldg., Cleveland, archts.

O., McCutchenville—High School—Bd. Educ. soon receives bids, 2-story, 100 x 130-ft. About $75,000. Pretzinger & Musselman, 1126 Reibold Bldg., Dayton, archt.

O., Martins Ferry—School—City voted $150,000 bonds to build school. Noted Apr. 26.

O., Mt. Pleasant—School—Bd. Educ. soon lets contract central high and grade school. H. I. McMillan, Emerson, pres. C. W. Bates, Natl. Bank Bldg., Wheeling, W. Va., archt.

O., New Lebanon—School—Bd. Educ. plans election to vote on $50,000 bonds to build school. O. Brumbaugh, secy. F. L. Packard, 1212 Hayden Bldg., archt.

O., St. Paris—Grade and High School—Bd. Educ. soon lets contract, 2-story. About $75,000. C. Sheets, 319 New 1st Natl. Bank Bldg., Columbus, archt.

O., Springfield—Y. M. C. A. plans building. About $250,000. J. L. Dorst, secy.

O., Van Wert—School—Bd. Educ. soon lets contract, 2-story, 100 x 700-ft. About $50,000. Howard & Merriam, 8 East Broad St., Columbus, archts.

Ind., Kokomo—Terminal—Indiana Railways & Light Co., 112-114 East Sycamore St., acquired site at Union and Superior Sts., and plans terminal to be part of improvements now being made at cost of $150,000. T. C. McReynolds, gen. mgr.

Ind., West Lafayette—(Lafayette P. O.)—Armory—Purdue University has had plans prepared by R. F. Daggett, archt., 956 Lemcke Annex, Indianapolis, 2-story, 260 x 360-ft. About $250,000. W. E. Stone, pres.

Mich., Adrian—Auditorium—St. Joseph's Academy plans. About $125,000. M. B. Hayes, c/o American Express Co., dir. P. Diedrich, archt., 502 Chamber of Commerce Bldg., Detroit, soon receives bids.

Mich., Cadillac—School—Henderson Twp. plans consolidated school, 1-story. About $50,000. T. E. White, archt., Capital Natl. Bank, Lansing, prepared plans.

Mich., Grand Rapids—School—Bd. Educ. plans, 3-story, 60 x 100-ft. addition. About $50,000. H. H. Turner, archt., 143 North Division St., prepared plans.

Ill., Chicago—Apartment Hotel—T. Swanson, 2423 Fullerton Ave., has had plans prepared, 7-story. About $200,000.

Wis., Eau Claire—Auditorium and Armory—City has had plans prepared by G. W. Awsumb, archt., 189 West Madison St., Chicago, 1- and 3-story, 85 x 150-ft. About $70,000. J. E. Barron, mayor.

Wis., Manitowoc—(Official)—School—City defeated $200,000 bonds to build school. Noted Apr. 26.

Ia., Ft. Madison—School—Bd. Educ. has had plans prepared by Owen & Payson, archts., 202 Reliance Bldg., Kansas City, Mo., 2-story, 62 x 90-ft. About $50,000.

Ia., Le Mars—Hospital—Sisters of St. Francis purchased Le Mars Hospital and will rebuild. About $85,000.

Ia., Sioux City—Church—First Baptist Congregation having plans prepared by Beuttler & Arnold, archts., 609-10 Security Bldg., 1 story. About $75,000. E. H. Stevens, 910 Jennings St., pastor.

Ia., West Point—Parochial School—Roman Catholic Church is having plans prepared by J. M. Nactigall, archt., 333 Paxton Bldg., Omaha, for brick and hollow-tile school. About $80,000.

Minn., Mandan—(Official)—School—St. Josephs Congregation rejected bids opened Apr. 14. New bids when conditions are normal. N. Bissler, Mandan, archt. Noted Apr. 5.

Minn., New Ulm—City plans to hold election to vote on $50,000 bonds to build city hall. L. A. Fritsche, mayor.

Minn., Virginia—School—City will vote May 12 on $375,000 bonds to build school. C. R. Nystrom, Alworth Bldg., Duluth, archt.

Kan., Neodesha—High School—Bd. Educ. has had plans prepared by Smith, Lea & Lovitt, archts., 602 Finance Bldg., Kansas City, Mo. About $100,000. A. K. Reppert, secy.

Neb., Lincoln—Science—State University of Nebraska soon receives bids, 3-story, 160 x 220-ft. About $350,000. J. S. Dale, Station "A," secy. bd. regents. Coolidge & Hodgdon, Corn Exchange Bank Bldg., Chicago, archts.

Buildings (Continued)

Bids Desired

N. Y., Brooklyn—Court House—Until May 16 by L. H. Pounds, boro pres., furnishing labor and material required for reconstructing Kings Co. court house, including electric work, plumbing, gas fitting, heating and ventilating work.

Ga., Atlanta—Bank—See "Reinforced Concrete."

Wis., Milwaukee—School—See "Reinforced Concrete."

Kan., Hoxie—Court House—Until May 17 by county, 2-story, 63 x 68-ft. About $60,000. T. W. Williamson & Co., Central National Bank Bldg., Topeka, archts.

S. D., Redfield—(Official)—Until June 2 by Bd Educ., 3-story. About $85,000. W. B. Ittner, 911 Locust St., St. Louis, archt. Noted Apr. 26.

Ont., Trenton—High School—Until May 15 by School Bd for brick high school. About $50,000. S. B. Coon & Son, Eyrie Bldg., Toronto, archts.

Prices and Contracts Awarded

(★Indicates award of contract)

★**N. Y., Massena**—School—Bd. Educ. let contract, brick and steel, on Bridge Ave., to Shamokin Lumber Co., 37 South 5th St., Shamokin, Pa., $125,000.

★**N. Y., Plattsburg**—City Hall—City let contract, brick and stone, River St., to A. E. Stephens Co., 318 Main St., Springfield, Mass., $174,800. Noted May 3.

★**N. Y., Rochester**—School and Church—Lake Ave. Baptist Congregation let contract remodeling, 1- and 2-story, 60 x 62-ft., to A. Friederich & Sons Co., 710 Lake Ave., $130,000.

★**N. Y., Syracuse**—Hospital—Hospital of Good Sheperd let contract, 4-story, 40 x 100-ft. and 5-story, 35 x 70-ft. additions to O'Brien Constr. Co., 1722 Park Ave. Noted May 3.

★**Pa., Lansdowne**—Auditorium—Bd. Educ. let contract, 2-story, to Butz & Clader, Ainey Bldg., Allentown, $135,000.

★**Pa., Phila**—Sunday School—1st Presbyterian Congregation let contract, 3rd St., to F. L. Hoover & Sons, 1023 Cherry St., $70,000.

★**Pa., Sharpsburg**—High School—Bd. Educ. let contract, on East Middle and Main St., to G. M. Hall, 135 7th Ave., Homestead. About $68,390.

★**Md., Havre de Grace**—Hotel—Susquehanna Inc., c/o C. C. Levinees, 210 Maryland Trust Bldg., Baltimore, let contract, 3-story, to A. Stubbs, 547 Equitable Bldg., Baltimore, $100,000.

★**O., Akron**—School—Bd. Educ. let contract, Manchester Rd. and South St., to Drummond-Miller Co., 221 Electric Bldg., Cleveland, $124,996.

★**O., Canton**—Church—Calvery Presbyterian Congregation let contract, 1-story, to C. R. Kumpf, 401 Newton Ave., $50,000.

★**O., Cleveland**—School and Parish House—St. Stanislaus Congregation let contract, East 6th St. near Forman St., to F. Ilocynski, 6508 Sebert St., $59,000.

★**O., Cleveland**—Hotel—Griswold Realty Co. let contract, 3844 Euclid Ave., to W. L. Carey, 1466 West 112th St., $350,000.

★**O., Dayton**—Synagogue—K. K. Beth Abraham Congregation let contract, 2-story, 90 x 100-ft., to F. A. Requarth Co., Sears and Monument Ave., $80,000.

★**O., New Vienna**—School—Bd. Educ. let contract, 2-story, 70 x 137-ft., to Sims & Benzing, Hamilton, $52,300.

Ind., Terre Haute—School—City received low bid from A. W. Stoolman, 1001 South 3rd St., Champaign, Ill., $138,000. Noted Apr. 19.

★**Ill., Chicago**—Hotel—R. W. Matteson, 127 North Dearborn St., let contract, 4-story, to A. Lindstrom, 127 North Dearborn St. About $325,000.

★**Ill., Chicago**—Schools and Hall—Catholic Bishop of Chicago let contract, 1-story school, 7031-39 Monroe St., 2-story school and hall, 7730 Eberhart Ave., to F. Burke, Chicago, $110,000.

★**Wis., Manawa**—High School—Bd. Educ. let contract, 2-story, to W. E. Polley, New London, $50,000.

★**Minn., Chisholm**—School—Bd. Educ. let contract, 2-story, to Madsen Constr. Co., 737 Plymouth Bldg., Minneapolis, $95,000.

★**Neb., Grand Island**—(Official)—Hotel—Bankers Realty Investment Co., Bee Bldg., Omaha, will build, 11-story, 88 x 88-ft., brick and terra cotta, by day labor. About $250,000. Noted Apr. 26.

★**Neb., Kearny**—(Official)—Hotel—Bankers Realty Investment Co., Bee Bldg., Omaha, will build, 6-story, rein.-con., terra cotta, by day labor. About $150,000. Noted Apr. 26.

★**Neb., Plattsmouth**—School—Bd. Educ. let contract, 2-story, to Peters & Parker Constr. Co., Plattsmouth, $65,000.

★**S. D., Mobridge**—Hotel—A. H. Brown Realty Co. will build 3-story hotel to be known as Brown's Palace Hotel, by day labor. About $115,000.

★**Cal., Visalia**—Jail—County let contract to Trewitt & Shields, $50,000.

★**Cal., Visalia**—Lodge—Visalia Elks Lodge let contract, to D. B. Day, Woodlake, $60,000.

FEDERAL GOVERNMENT WORK

Proposed Work

Launchway—R. I., Narragansett Pier—U. S. Coast Guard, Wash., received no bids, May 2, concrete and steel launchway. Noted Apr. 12.

Magazines, Etc.—Wash., D. C.—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., prepared plans magazines, shell houses and storehouse at St. Juliens Creek, Va. About $175,000. Noted Apr. 26.

Bids Desired

Pier—N. H., Portsmouth—Until May 21 by Bureau Yards and Docks (F. R. Harris, ch), Navy Dept., Wash., timber pier for fitting out slip at Navy Yard. Noted Apr. 19.

Coal Weighers—Mass., Boston—Until May 21 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept, Wash., furnishing at central power plant, Navy Yard. Noted May 3.

Reservoir—R. I., Ft. Greble—Until June 2 by Constructing Quartermaster, Ft. Adams, Newport, for 1,000,000-gal. concrete reservoir.

Wharf—Conn., New London—Until May 29 by Navy Dept., U. S. Coast Guard headquarters, Wash., pile and timber wharf at U. S. Coast Guard Academy; advertised in this issue.

Basin and Launchway—N. Y., Charlotte—Until May 29 by Navy Dept., U. S. Coast Guard headquarters, Wash., for constructing at Station No. 233; advertised in this issue.

Storehouse—Pa., Phila.—Until May 21 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., rein.-con. general storehouse on timber piles at Navy Yard Noted Apr. 26.

Boathouse—Wash., D. C.—Until May 31 by Navy Dept., U. S. Coast Guard Headquarters, Wash., at Station No. 252, Thunder Bay Island, Mich., advertised in this issue.

Buildings—Wash., D. C.—Until May 14 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., repairs and improvements to buildings at Naval Hospital.

Platform and Retaining Wall—Wash., D. C.—Until May 17 by Dist. Comrs., Room 509, Dist. Bldg., concrete platform and retaining wall at M St. bridge crossing Rock Creek; advertised in this issue.

Sewers—Wash., D. C.—Until May 14 by O. P. Newman, Dist. Comr., Room 509, Dist. Bldg., about 1450 lin.ft. of 2-ft. 6-in. span masonry sewer.

Foundry Buildings—Va., Norfolk—Until May 21 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., at Navy Yard Noted May 3.

Machine Shop—Va., Norfolk—Until May 21 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., at navy yard. Noted May 3.

Tower—Fla., Pensacola—Until May 21 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., 200-ft. steel observation tower at Navy Aëronautic Station. Noted Apr. 19.

Post Office—Fla., Sanford—Until June 4 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Gravel, Etc.—Ala., Montgomery—Until June 9 by U. S. Engr. Office, Montgomery, furnishing and delivering about 16,000 tons gravel or crushed stone; advertised in this issue.

Excavation—Ind., New Albany—Until June 1 by U. S. Engr. Office, Cincinnati, rock excavation in Ohio River.

Post Office—Ia., Cedar Falls—Until May 17 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Prices and Contracts Awarded

(★Indicates award of contract)

Buildings—R. I., Newport—Bureau Yards and Docks, Navy Dept., Wash., received low bids Seaman's Gunners' Quarters, Naval Torpedo Station, from Darling-Slade Constr. Co., Newport, $142,850; M. F. Kelly, Newport, $149,114; Conners Bros. Co., 64 West 88th St., New York City, $144,875. Noted Apr. 5.

★**Crane—Pa., Phila.**—Bureau Yards and Docks, Navy Dept., Wash., let contract electric traveling bridge cranes to Niles-Bement-Pond Co., 111 Bway., New York City, $126,061.

★**Buildings—Md., Indian Head**—Bureau Yards and Docks, Navy Dept., Wash., let contract 3 frame buildings at naval station to J. H. Nolan Constr. Co., Munsey Bldg., Wash., $27,060.

Grading—Wash., D. C.—Dist. Comrs. received bids May 1, (a) Tracy Pl., (b) Thornton St., (c) 14th St., N. W., (d) 8th St., (e) Buchanan St., (f) 48th St., from H. F. Voight Co., 715 14th St, N. W., (a) 52c., (b) 48c., (c) 30c., (d) 29c.; G. Hyman, 2117 E St., N. W., (a) 50c., (b) 50c., (c) 35c., (d) 35c., (e) 60c., (f) 50c. Noted Apr. 26.

★**Sewers—Wash., D. C.**—Dist. Comrs. let contract to W. F. Brenizer Co., Q near 1st St., N. W. Noted Apr. 5.

★**Hydraulic Pumps and Accumulators—Va., Norfolk**—Bureau Yards and Docks, Navy Dept., Wash., let contract furnishing at Norfolk and Phila. Navy Yards to Almirall & Co., Inc., 1 Dominick St., New York, $76,331. Noted May 3.

★**Shipbuilding Crane—S. C., Charleston**—Bureau Yards and Docks, Navy Dept., Wash., let contract to McMyler Interstate Co., Bedford, O., $25,715. Noted Apr. 19.

★**Piers, Etc.—Fla., Pensacola**—Bureau Yards and Docks, Navy Dept., Wash., let contract concrete piers, reconstructing of existing pier, concrete drainage culvert, timber bulkhead, [illegible] and concrete pavement at Navy Aëronautic Station, to Mabry & Owens Co., Tampa, $46,400. Noted May 3.

Post Office—Tenn., Chattanooga—J. A. Wetmore, superv. archt., Treas. Dept., Wash., received only bid from G. Becking, Chattanooga, $[illegible]. Noted Apr. 5.

Cement—O., Lowell—W. P. Stokey, Major, Corps of Engrs, U. S. A., Dist. Engr. Office, 2nd Dist., Room 415, Custom House, Cincinnati, received low bids furnishing and delivering about 6600 bbl. American portland cement, for use in recapping top of Dam No. 3, Muskingum River, from Universal Portland Cement Co., Frick Bldg., Pittsburgh, $14,536; Louisville Cement Co., Speeds Mill, Louisville, $15,378; Atlas Portland Cement Co., 30 Broad St., New York City, $16,104. Noted Apr. 19.

Post Office—Tex., Commerce—J. A. Wetmore, superv. archt., Treas. Dept., Wash., received only bid, May 1, from A. Blair, Montgomery, Ala., limestone, $45,900.

MISCELLANEOUS

Proposed Work

Tunnels—Conn., Bridgeport—See "Reinforced Concrete."

Flood Protection—N. Y., Corning—(Official)—Bd Pub. Wks. retained Solomon, Norcross & Keis, engrs., Watervliet, to make surveys and prepare plans for flood-prevention work on Monkey Run Creek, consisting of storm-water conduits and flood-protection appurtenances.

Steam Roller—N. J., New Brunswick—Bd. Freeholders plan to purchase, 12-ton.

Dam—Tenn., Cumberland Springs—See "Reinforced Concrete."

Garbage Plant—O., Bellefontaine—City plans. About $35,000. C. A. Inskeep, city engr.

Parks—Mich., Detroit—City plans to spend $70,000 in laying out 3 parks to be situated at Sandwich St. and Campbell Ave., Church St., and Ottawa St., Giles Blvd. and Marion Ave. R. H. McCormick, city engr.

Garbage Plant, Etc.—Mo., St. Louis—See "Sewers."

Bids Desired

Sheds—N. Y., New York—See "Structural Steel."

Riprap—Pa., Harrisburg—Until May 14 by Park Dept., ripraping river bank slopes from Calder to Maclay St. E. Z. Gross, comr.

Station Platform—Pa., Phila.—See "Structural Steel."

Track Floors, Etc.—Pa., Phila.—See "Reinforced Concrete."

Levee—La., New Orleans—(Official)—Until May 16 by Bd. Levee Comrs., Orleans Levee Dist., Suite 201, New Court Bldg., for constructing, in 3rd Dist., on river front, about 3800 lin.ft. levee, involving 32,000 cu.yd. earthwork and removal and resetting of 3800 lin.ft. revetment from Kentucky to Andry St.; 3500 ft. levee, involving 65,000 cu.yd earthwork and removal and resetting of 3500 lin.ft. revetment. from Andry St. to Jackson Barracks. W. McL. Fayssoux, pres.

Coal Hoisting and Handling Device—O., Cleveland Heights—(Warrensville P. O.)—(Official)—Until May 17 by Bd Educ. of Cleveland Heights Village School Dist., c/o Lee Rd. School, Lee Rd., for furnishing and erecting for central heating plant on Lee Rd. School site. J. H. Herron, 2041 East 3rd St., Cleveland, engr.

Pumping Plant—Mo., Louisiana—(Official)—Until May 21 by Bd. Supervs. Riverland Levee Dist. furnishing and erecting oil-driven pumping plant. Jacksonville Engr. Co., Jacksonville, Ill., engr.; advertised in this issue.

Cement Pipe Line—Utah, Midvale—(Official)—Until May 21 by W. S. Burnett, city recdr., about 2 mi. 15-in. pipe line, alternate bids for concrete and double strength vitr. pipe, up Cottonwood Canyon. About $10,000. J. L. Griffith, city engr. Noted Apr. 5.

Subway—Cal., Davis—Until May 28 by State Highway Comn., Forum Bldg., Sacramento, under tracks Southern Pacific Ry.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Coal Pocket, Etc.—N. H., Manchester**—W. E. McElwain Co. let contract coal pocket, drainage and railroad trestle to F. T. Ley & Co., Inc., 495 Main St., Springfield, Mass., $20,300.

Ties and Timber—N. Y., New York—(Official)—Pub. Ser. Comn. for 1st Dist., 120 Broadway, received only bid, May 2, supply of timber for use in construction of rapid-transit railways from J. H. Burton & Co., 45 Bway., $54,913. Noted Apr. 19.

★**Foundations—Pa., Phila.**—(Official)—Dept. City Transit let contract 168 column foundations in Frankford Ave. from Unity St. to Dyre St., Frankford Elevated Ry., to E. H. Vare, Lincoln Bldg., $47,090. Noted Apr. 26.

★**Retaining Wall—Mo., Kansas City**—See "Reinforced Concrete."

★**Ark., Little Rock**—Dikes—County let contract constructing 2 dikes and repairing 5 to J. Trainor, 320 Sherman St., $23,982.

★**Retaining Wall—Okla., Tulsa**—Bd. Educ. let contract, around new high school grounds, to Van-Horn Brickner Co., Tulsa, $13,913.

CONTRACTING NEWS

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

Proposals

For Proposals Advertised See Pages 63 to 71 Inclusive

WATERWORKS

Bids Close.		See Eng. News-Record.
May 19.	Racine, Wis.	May 17
May 21.	Louisiana, Mo.	May 17
May 22.	Bishopville, S. C.	May 17
May 22.	New York, N. Y.	May 10
May 24.	Bradford, O. Adv. Apr. 17.	May 17
May 25.	Mt. Rainier, Md. Adv. May 3 and 10.	May 3
May 25.	Lowellville, O.	May 17
May 28.	Brantford, Ont.	May 17

SEWERS

May 19.	Whitehall, Mont.	May 10
May 21.	Indiapapolis, Ind.	May 17
May 22.	Oklahoma, Okla.	May 10
May 22.	Bishopville, S. C.	May 17
May 25.	Mt. Rainier, Md. Adv. May 3 and 10.	May 3
May 25.	Lakewood, O. Adv. Apr. 19.	Apr. 19
May 25.	Valparaiso, Ind.	May 10
May 25.	New York, N. Y.	May 17
May 28.	Syracuse, N. Y.	May 17
May 28.	West Burlington, Ia.	May 10
May 29.	Barberton, O. Adv. May 17.	May 17
May 29.	Jackson, Tenn. Adv. May 17.	May 17
May 29.	Leland, Miss. Adv. May 3 and 10.	May 10
May 29.	New Iberia, La.	May 17
May 31.	Creston, Ia.	May 17
May 31.	Jacksonville, Fla. Adv. May 17.	May 17
June 2.	Burlington, Wis.	May 10
June 5.	Newark, N. J.	May 10
June 5.	Auburn, N. Y. Adv. May 3 to May 17.	May 10
June 12.	Newark, N. J.	May 17

STRUCTURAL STEEL WORK

May 18.	Kansas City, Mo.	May 10
May 20.	Des Moines, Ia.	May 3
May 21.	Ashland, O.	May 10
May 21.	Allentown, Pa.	May 17
May 21.	Worthington, Minn.	May 17
May 21.	Plainfield, N. J.	May 17
May 22.	Camden, S. C. Adv. May 10 and 17.	May 10
May 24.	Dayton, O.	May 17
May 28.	Clifton, Ariz. Adv. May 3 and May 10.	May 3
June 6.	Dayton, O.	May 17

REINFORCED CONCRETE

May 21.	San Jose, Cal.	May 3
May 21.	Orohogo, Mo.	May 17
May 21.	Canton, O.	May 17
May 21.	Brookline, Mass.	May 17
May 22.	Philadelphia, Pa. Adv. May 10.	May 10
May 23.	Hamilton, O.	May 17
May 23.	Cambridge, Minn.	May 17
May 25.	Palatka, Fla.	May 17
June 5.	Elkader, Ia. Adv. May 17.	May 17

STREETS AND ROADS

May 19.	Paducah, Ky.	May 17
May 21.	Montesano, Wash.	May 10
May 21.	Orrville, O.	May 10
May 21.	Edgar, Ill.	May 10
May 21.	Roseau, Minn.	May 17
May 21.	De Ridder, La.	May 17
May 21.	Albany, N. Y.	May 17
May 21.	Ventura, Cal.	May 17
May 21.	San Leandro, Cal.	May 17
May 21.	Richmond, Va.	May 17
May 21.	Detroit, Mich.	May 17
May 22.	Newark, O.	Apr. 26
May 22.	Kinder, La.	May 10
May 22.	Jonesboro, Ark.	May 17
May 22.	Clarksville, Miss.	May 17
May 22.	Johnstown, O.	May 17
May 22.	Monmouth, Ore.	May 17
May 22.	Clarksville, Miss.	May 17
May 22.	Weehawken, N. J.	May 17
May 23.	Trenton, N. J.	May 10
May 23.	Jonesboro, Ark.	May 10
May 23.	Brooklyn, N. Y.	May 17
May 24.	Wellsburg, W. Va.	May 3
May 24.	Atlanta, Ga.	May 10
May 24.	Dayton, O.	May 17
May 24.	Hickory, N. C.	May 17
May 24.	Santa Barbara, Cal.	May 17
May 25.	Indiana	May 17
May 25.	Palatka, Fla.	May 10
May 25.	Jersey City, N. J. Adv. May 17.	May 17
May 26.	Alexandria, La.	May 3
May 26.	Bartow, Fla. Adv May 3 and 10.	May 10
May 26.	Wildwood, N. J.	May 17
May 27.	Sprague, Wash.	May 17
May 28.	Austin, Minn.	May 10
May 28.	Batavia, Cal.	May 10
May 28.	Montesano, Wash.	May 17
May 28.	Olympia, Wash.	May 17
May 28.	Owensville, Ky.	May 17
May 28.	Everett, Wash.	May 17
May 28.	California.	May 17
May 28.	Albany, N. Y. Adv. May 17.	May 17
May 29.	Charleston, S. C.	May 17
May 29.	Port Clinton, O	May 3
May 29.	Lebanon, O.	May 10
May 29.	Cleveland, O.	May 17
May 29.	Port Angeles, Wash.	May 17
May 29.	Jersey City, N. J.	May 17
May 30.	Lenoir, N. C. Adv. Apr. 26.	Apr. 26
May 30.	Russellville, Ark.	May 17
May 30.	Greenville, Miss. Adv. May 17.	May 17
May 31.	Indiana	May 17
May 31.	Nashville, Mich. Adv. May 17.	May 17
May 31.	Milwaukee, Wis.	May 10
May 31.	Brainerd, Minn.	May 10
June 1.	Grove City, Pa. Adv. May 17.	May 17
June 2.	Dayton, O.	May 17
June 2.	Lakewood, N. J. Adv. May 17.	May 17
June 4.	Mishawaka, Ind.	May 10
June 4.	Westfield, N. J. Adv. May 17.	May 17
June 5.	Boulder, Colo.	May 17
June 5.	Indiana	May 17
June 5.	Yadkinville, N. C.	May 17
June 6.	Indiana	May 17
June 7.	Indiana	May 17
June 8.	Crowley, La.	May 10
June 11.	Fayetteville, W. Va.	May 17
June 12.	Harrisburg, Pa. Adv. May 17.	May 17

EXCAVATION AND DREDGING

May 19.	Watseka, Ill.	May 17
May 20.	Brownsville, Tenn.	May 17
May 22.	Clear Lake, S. D.	May 10
May 22.	Charles City, Ia.	May 17
May 23.	Jefferson, Ia.	May 17
May 24.	Ft. Dodge, Ia.	May 10
May 24.	Brooklyn, N. Y.	Maq 17
May 25.	Benson, Minn.	May 10
May 25.	Ft. Dodge, Ia.	May 17
May 26.	Peru, Ind.	May 17
May 26.	Luverne, Minn	May 17
May 26.	Stillwater, Minn.	May 17
May 31.	Schuyler, Neb.	Apr. 26
May 29.	Albany, N. Y. Adv. May 3 to May 17.	May 3
May 29.	Youngsville, La.	May 17
June 1.	Cape Girardeau, Mo. Adv. May 17.	May 17
June 1.	Rushville, Ind. Adv. May 10 and 17.	May 17
June 1.	Scandia, Kan.	May 17
June 5.	Fremont, Neb.	May 17
June 7.	Madison, S. D. Adv. May 17.	May 17
June 12.	Algona, Ia.	May 17
June 14.	Lonoke, Ark. Adv. May 17.	May 17

BUILDINGS

May 19.	Hartford, Conn.	May 3
May 21.	Newark, N. J.	May 3
May 21.	Ironwood, Mich.	May 17
May 21.	Kewanee, Ill.	May 17
May 21.	Savannah, Ga.	May 17
May 21.	Celina, O.	May 17
May 21.	Gardner, Mass.	May 17
May 22.	Lake Andes, S. D.	May 3
May 22.	Napier, Ia.	May 10
May 24.	Tulsa, Okla.	May 3
May 24.	Lafayette, Ind.	May 17
May 24.	Paterson, N. J.	May 17
May 24.	Rice Lake, Wis.	May 17
May 25.	Central Islip, N. Y. Adv. May 17.	May 17
May 26.	Columbus, O.	Apr. 26
May 29.	Hoboken, N. J.	May 17
May 30.	Urbana, Ill. Adv. Apr. 26.	Apr. 26
June 2.	Redfield, S. D.	May 10
June 4.	Drake, N. D.	May 17
June 5.	Ness City, Kan.	May 17
June 6.	Canton, O.	May 17
June 9.	Jacksonville, Fla.	May 17

FEDERAL GOVERNMENT WORK

May 19.	Washington, D. C. Adv. Apr. 26.	Apr. 26
May 21.	Vallejo, Cal.	Apr. 26
May 21.	Cleveland, O. Adv. April 19 to May 10.	Apr. 26
May 21.	Wilmington, Del. Adv. Apr. 26 to May 17.	Apr. 26
May 21.	Kansas City, Mo. Adv. Apr. 26 to May 17.	Apr. 26
May 21	Philadelphia, Pa.	May 10
May 21	Norfolk, Va.	May 10
May 21	Boston, Mass.	May 10
May 21	Pensacola, Fla.	May 10
May 21	Portsmouth, N. H.	May 10
May 21.	Washington, D. C.	May 17
May 21.	Girard, Kan.	May 17
May 21.	Washington, D. C.	May 17
May 22.	Prescott, Ark.	May 17
May 22.	Wash., D. C.	May 17
May 23.	Garfield, N. M. Adv. Apr. 26.	Apr. 26
May 23.	Montgomery, Ala. Adv. May 3 to May 17.	Apr. 26
May 23.	Denver, Colo.	May 17
May 23.	Lakeland, Fla.	May 17
May 23.	Watertown, Mass.	May 17
May 24.	Indiana, Pa.	Apr. 26
May 25.	Washington, C. H. O.	Apr. 26
May 25.	New York, N. Y. Adv. May 17.	May 17
May 25.	Charleston, Ill.	May 17
May 28.	Jasper, Ala. Adv. Apr. 19 and 26.	Apr. 26
May 28.	Bremerton, Wash.	May 17
May 28.	Washington, D. C.	May 17
May 28.	La Crosse, Wis.	May 17
May 29.	Southbridge, Mass. Adv Apr. 19 and 26.	Apr. 26
May 29.	Berwick, Pa. Adv. Apr. 26 and May 3.	Apr. 26
May 29.	Charlotte, N. Y. Adv. May 10.	May 10
May 29.	New London, Conn. Adv. May 10 and May 17.	May 10
May 30.	Ft. Michie, N. Y.	Apr. 26
May 30.	Ft. Snelling, Minn. Adv. Apr. 26 and May 3.	May 17
May 31.	Washington, D. C. Adv. May 10 and May 17.	May 10
June 1.	New Albany, Ind.	May 10
June 2	Ft. Greble, R. I.	May 10
June 4.	Sanford, Fla.	May 10
June 4.	Wilmington, Del. Adv. May 10 and 17.	May 17
June 5.	Olney, Ill.	May 3
June 6.	Orange, Tex	May 3
June 6.	Golden Gate, Cal. Adv. May 17.	May 17
June 6.	Ft. Laramie, Wyo.	May 17
June 7.	Marion, Ill.	May 3
June 8.	Denton, Tex.	May 17
June 9.	Montgomery, Ala. Adv. May 10.	May 10
June 11.	Bridgeport, Conn.	May 17
June 11.	New York, N. Y. Adv. May 17.	May 17
June 12.	State College, Pa. Adv. May 17.	May 17
June 14.	Cherryvale, Kan.	May 17
June 14.	Three Rivers, Cal.	May 17
June 16.	Montgomery, Ala. Adv. May 17.	May 17
June 18.	Akron, O.	May 17
June 19.	Montevideo, Minn.	May 17
June 19.	Aledo, Ill. Adv. May 17.	May 17
June 20.	Beaufort, S. C. Adv. May 17	May 17
June 21.	Cambridge, Md.	May 17
June 23.	Raton, N. M.	May 17

MISCELLANEOUS

May 21.	Pumping Plant—Louisiana, Mo. Adv. May 3 and 10.	May 10
May 21.	Pipe Line—Midvale, Utah	May 10
May 21.	Pier, Sewalls Point, Va.	May 17
May 21.	Culverts Roseau, Minn.	May 17
May 21.	Boardwalk, Newport Beach, Cal.	May 17
May 21.	Park Improvements, Albany, N. Y.	May 17

Bids Close.		See Eng. News-Record.
May 21.	Passenger Station. New York, N. Y.	May 17
May 21.	Street Lighting System, Bayard, Neb. Adv. May 17.	May 17
May 22.	Flood Protection. Columbus, O.	May 17
May 28.	Subway—Davis, Cal	May 10
May 29.	Refrigeration Equipment Thiells, N. Y. Adv. May 17.	May 17
May 31.	Dock Wall. Troy, N. Y. Adv. May 17.	May 17
June 4.	Jetty. Newport Beach, Cal Adv. May 17.	May 17

Where name of official is not given, inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATER-WORKS

Proposed Work

N. J., Perth Amboy—Bd. Water Comrs. plans to appropriate $200,000 to extend and improve water-works.

Va., Franklin—Town plans to spend $17,000 to install filter plant.

Va., Norfolk—City plans to spend $50,000 to extend water mains. W. H. Taylor, Jr., city engr.

S. C., Lake City—See "Sewers."

Ga., Thomasville—See "Streets and Roads."

O., East Palestine—City sold $20,000 bonds to improve water system. Noted May 3.

O., Marietta—See "Reinforced Concrete."

Wis., Wausau—City having plans prepared by E. G. Kirchhoffer, engr., Madison, for aërial filter plant. About $100,000.

Minn., Minneapolis—City plans to lay 2 mi. lateral water mains in various streets during year. W. R. Young, supt.

Neb., Norfolk—City election May 25 to vote on $10,000 bonds for extending water system. P. F. Stafford, clk.

Neb., Verdel—(Official)—City retained Gramlich & Wagner, engrs., Terminal Bldg., Lincoln, to make plans for water system. Bonds for work have been voted and bids will soon be received.

S. D., Milbank—City to sell $12,000 bonds May 25 to install water system. A. A. Blanquist, aud.

Mont., Poplar—Council plans to install water and sewerage systems.

Tex., Austin—City voted $600,000 bond issue to improve water system. E. S. Bartholomew, supt.

Tex., Carthage—City soon lets contract building water-works pumping plant and laying distributing system.

Tex., Corsicana—City voted $50,000 bonds to sink well. Noted Apr. 5.

Okla., Collinsville—City plans new reservoir and water plant north of city. About $55,000.

Okla., Red Fork—City election May 22 to vote on $20,000 bonds for water system.

Cal., San Dimas—See "Reinforced Concrete."

Cal., Santa Barbara—City election June 26 to vote on $590,000 bonds for completing water system, including earth reservoir, concrete and masonry dam and pipe lines. J. B. Lippincott and E. R. Bowen, Central Bldg., Los Angeles, engrs.

Bids Desired

S. C., Bishopville—See "Sewers."

O., Bradford—Until May 24 by Bd. Trustees Pub. Affairs for building extensions to present water system; advertised in this issue.

O., Lowellville—(Official)—Until May 25 by J. F. Lash, village clk., furnishing material and constructing water connections from main water line in Youngstown and Lowellville Rds., Wood and other streets. Noted Apr. 7.

Wis., Racine—(Official)—Until May 19 by Bd. Pub. Wks for water mains and sewer in 10 streets. P. H. Connolly, city engr.

Mo., Oronogo—See "Reinforced Concrete."

Ont., Brantford—Until May 28 by J. Fair, chn. Water Bd., for 2 electrically driven pumps, 300-gal. per minute capacity each, also electric motors and equipment.

Prices and Contracts Awarded

(★Indicates award of contract)

★Mass., Framingham—City let contract laying c.-i. and wrought-iron water pipe to G. Ferullo & Co., 31 North Sq., Boston.

Ga., Macon—City received low bids installing additional pumps at water-works from Allis-Chalmers Co., West Allis, Wis., Laidlow, Dunn-Gordon, H. R. Worthington and Hamilton-Corliss Engine Wks. About $30,000 to $40,000.

★Ga., Tennille—See "Sewers."

★O., Celina—Bd. Control let contract for water pipe extensions to A. H. Fishbaugh, $10,000.

★O., St. Marys—City let contract water and light plant and distributing system to Skeldon Engr. Co., 359 Spitzer Bldg. Toledo, $47,000.

★Ill., Joliet—See "Sewers."

Wis., Milwaukee—City received low bids installing pumping engine from Allis-Chalmers Co., West Allis, $175,000, and Worthington Pump and Machinery Corp., Clinton and Roberts Sts., Buffalo, $191,051. Noted Apr. 19.

★Wis., Mauston—City let contract building reservoir and installing sewers to DeLos Eng. and Constr. Co., Prairie du Chien.

★Minn., South Stillwater—City let contract water system, including concrete reservoir, brick and concrete pump house, machinery pipe line, etc., to Marion Machine Co., 183 University Ave., St. Paul.

★N. D., Fargo—City let contract water mains in portions 6th, 7th, 8th, 9th, 15th and 16th Sts. to Schruth & Jackson, Fargo, $45,000. Noted May 10.

★Tex., Electra—See "Sewers."

SEWERS

Proposed Work

N. J., Fanwood—City had plans prepared by Fuller & McClintock, engrs., for sewerage system involving 36,000 ft. sewer pipe. About $29,440. Address A. Nichols, North Ave.

Pa., Kittanning—City plans to build intercepting sewer and sewage-treatment works.

Pa., McKeesport—State Dept. Health approved plans sanitary sewers in 9th Ward, involving disinfection of sewage discharging to Youghiogheny.

S. C., Lake City—(Official)—City receives bids in October for complete sewerage and water-works systems involving 5 mi. mains 8- to 4-in., motor pumps, steel tank and tower and 50,000-gal. capacity reservoir. About $55,000. Noted May 3.

Ky., Louisville—Bd. Pub. Wks. rejected bids installing sewers in Pennsylvania and Field Ave. and Crescent Hill. About $22,000. New bids. Noted May 3.

O., Cleveland—City plans to install sewers in Linndale, Governor, Fortine and St. Marks Sts. R. Hoffman, city engr.

O., Hamilton—F. Weaver, city engr., submitted report estimating cost installing sewers, Dist. No. 3, East Hamilton, at $11,689.

O., Lakewood—City rejected bids installing lake outlet section of outfall sewer, involving excavation of trench in sand and shale along bottom of lake and laying 1100 ft. pipe. New bids. N. C. Gotabish, dir. dept. pub. wks. Noted Apr. 19.

Ind., Michigan City—City plans to install large storm sewer district in southern section of city. E. G. Dunn, city engr.

Ia., Chariton—City defeated $65,000 bonds to install sewers.

Ia., Sioux City—City soon lets contract sanitary sewers in portions 32nd and 15th St. T. H. Johnson, city engr.

Kan., Pittsburg—City plans to install sewage disposal plant. About $60,000. F. E. Schide, engr.

Mont., Poplar—See "Water-Works."

Tex., Dallas—City receiving bids about July 1 installing sewage-disposal plant. About $30,000. Noted Apr. 19.

Tex., Plainview—(Official)—City retained H. E. Elrod, engr., Interurban Bldg., Dallas, to make plans sewage-disposal plant.

Tex., Waco—City plans to improve sewers. About $150,000. Burns & McDonnell, 400 Inter-State Bldg., Kansas City, Mo., engrs.

Okla., Ada—City election May 25 to vote on $100,000 bonds to improve sewers. Benham Engr. Co., Colcord Bldg., Oklahoma, engrs.

Okla., Ardmore—City plans to install storm sewer district and septic tank in northwest section of city. A. Watson, city engr.

Idaho, Moscow—Council plans to install sewage disposal plant and enlarge entire sewer system.

Cal., Long Beach—City plans to install vitr. clay sewers in portion California, Myrtle and Chestnut Aves. and Anaheim, New York, 15th, 16th, 17th and Esther Sts. H. C. Waughop, clk.

Ont., Aurora—Town had plans prepared by James, Loudon & Hertzberg, engrs., Excelsior Life Bldg., Toronto, for sewerage system. About $80,000.

Bids Desired

N. Y., Albany—See "Streets and Roads."

N. Y., New York—Until May 25 by M. M. Marks, boro. pres., Contract No. 2, tunnel relief sewer and appurtenances in portion West 46th St.

N. Y., New York—Until May 25 by M. M. Marks, boro. pres., alteration to receiving basins, with inlets on portion Monroe St.; construction of receiving basins at 117th St. and 7th Ave. and at 5 other points; alteration and improvement to sewer in portion Madison St.

N. Y., Syracuse—(Official)—Until May 28 by City installing sewers known as 17th Ward Sewers, West Branch, involving 1 rein.-con. sedementation basin 24 x 54-ft. and 41,300 lin.ft. vitr. clay or concrete sewer. H. C. Allen, city engr.

N. J., Newark—Until June 12 by Passaic Valley Sewerage Comn. for Kearny-Harrison branch intercepting sewer, in Kingsland, Hamilton and Schuyler Aves.

S. C., Bishopville—Until May 22 by City installing sewerage and water systems involving 31,920 lin.ft. 8-in., 3900-ft. 12-in. and 7200-ft. 15-in. terra cotta; c.i. pipe, flush tanks, 1451-cu.yd. fill; rein.-con. sedimentation tank, etc. W. S. James, clk. J. B. McCrary Co., Atlanta, engrs.

Fla., Jacksonville—Until May 31 by Bd. Road Trustees for building certain sanitary sewers and furnishing material for same; advertised in this issue.

La., New Iberia—Until May 29 by Comrs. 1st Sewer Dist. installing sanitary sewerage system and disposal plants. C. L. Provost, secy. X. A. Kramer, Magnolia, Miss., engr.

Tenn., Jackson—Until May 29 by Bd. Comrs. for building public sanitary sewer extension, North Jackson, East Jackson, South Jackson and West Jackson; advertised in this issue.

O., Barberton—Until May 29 by Bd. Control for building sewage treatment plant; advertised in this issue.

Ind., Indianapolis—(Official)—Until May 21 by Bd. Pub. Wks. for West 10th St. main sewer, involving 8120 ft. from 2-ft. 6-in. to 6-ft. 6-in. diam. brick, concrete or segmental block, gravel excavation. About $90,000. B. J. T. Jeup, city engr. Noted Apr. 26.

Wis., Racine—See "Water-Works."

Ia., Creston—(Official)—Until May 31 by City for building sewage disposal plant, including 300,000-gal. Imhoff tank, dosing chamber, filter beds, etc., also outfall sewer extensions. T. S. De Lay, engr.

Ark., Jonesboro—See "Streets and Roads."

Wash., Port Angeles—See "Streets and Roads."

Prices and Contracts Awarded

(★Indicates award of contract)

Mass., Hyde Park—(Boston P. O.)—City received low bid installing sewerage system from A. Cefalo, 316 Belgrade Ave., Rosindale, $40,949.

★Conn., West Hartford—City let contract installing sewers in Auburn St. and Ross Ave. to W. T. Ryan Constr. Co., Park and Capitol Ave., Terrace and Hartford, $18,261.

★N. Y., Syracuse—(Official)—Intercepting Sewer Bd. let contract improving Onondaga Creek and extending main intercepting sewer system to J. Young, 509 Bastable Blk., $449,960.

★Pa., Johnstown—Council let contract installing 1 mi. main sanitary sewers to M. O'Herron Co., South 1st and McKean Sts., Pittsburgh, $130,620.

★Pa., Upper Darby—Comrs. let contract 5 mi. terra cotta sewers to C. J. Lawler, Bala, and Gibbons & Huckley, Lansdowne.

★Ga., Tennille—(Official)—City let contract 4 mi. sanitary sewers, hauling and laying 3600 ft. 6- and 8-in. water mains and 2-in. service pipe to J. P. Carter, Decatur, about $10,000. Noted Apr. 26.

★O., Barberton—City let contract 5 mi. sanitary sewers and pumping station to Hoag & Kall, 510 Commercial Bank Bldg., Cleveland, $123,573.

★O., Centersburg—(Official)—City let contract sewage-disposal plant and sewers to W. H. Ralston, Mt. Vernon, $10,006. Noted Apr. 19.

★O., Cleveland—Bd. Control let contract installing sewer in Williams Ave. to Donnelly & Graham, West 30th St., and Cleveland, Cincinnati, Chicago & St. Louis R.R., $23,507.

★Ohio, Lancaster—Dept. Pub. Serv. let contract 2½ mi. 8- to 36-in. sanitary sewers, Dist. 12, to W. Stracham.

★Ind., Frankfort—City let contract East End sanitary sewer to Michaels & Minich, Marion, $18,206.

★Mich., East Grand Rapids—(Grand Rapids P. O.)—City let contract installing sewers to Vander Wele Bros., $10,865.

★Mich., Lansing—City let contract installing sewers in portion Ellenwood St. to L. E. Ward, $66,500.

Ill., Chicago—Bd. Local Improv. let contract pipe and tile wing sewers, brick manholes and catch basins in Narragansett Ave. to P. J. McNulty Co., Chicago.

★Ill., Joliet—City let contract installing sewers and water mains in Taylor and Whitney Ave. to Curtis & Tindall.

★Wis., Madison—City let contract installing sewers to E. R. Harding Constr. Co., Racine, $300,000.

★Wis., Mauston—See "Water-Works."

Minn., Virginia—See "Streets and Roads."

★Neb., Omaha—City let contract completion of Saddle Creek storm sewer to J. J. Hanighen, 617-23 South 14th St., $62,629.

★Mo., Higginsville—City let contract installing sewers to O'Neil Constr. Co., Leavenworth, Kan., $30,626.

★Tex., Electra—City let contract sewerage system and extending water-works to M. Griffin O'Neal & Sons, 2516 McKenzie Ave., Dallas.

Sewers (Continued)

★Okla., **Carnegie**—City let contract installing sanitary sewers to James Constr. Co., Guthrie, $20,940.

★Cal., **Stockton**—City let contract sewer to J. Heafey, 22 Mesa Ave., Oakland, $56,909. Noted Apr. 12.

STRUCTURAL STEEL

Proposed Work

Fla., Gainesville—See "Streets and Roads."

Fla., Tampa—See "Streets and Roads."

La., Lake Providence—County plans to build bridges. About $100,000 available. C. S. Wyly, secy.

Tenn., Clarksville—County defeated $150,000 bonds to build 2 bridges over Cumberland River.

O., Cleveland—Cleveland, Cincinnati, Chicago & St. Louis R.R. plans to build lift bridge. C. A. Paquette, Cincinnati, engr.

Minn., Aitkin—See "Streets and Roads."

Minn., Olivia—See "Streets and Roads."

N. M., San Jon—See "Streets and Roads."

Cal., Oakland—County election Aug. 14 to vote on $2,000,000 bonds to be used as follows: $500,000 county's share toward cost bascule bridge over Estuary; $1,000,000 new county hospital; $500,000 improving present county infirmary.

Que., Montreal—City plans to build steel bridge. About $210,000. P. Mercier, engr.

Ont., Toronto—See "Railways."

Bids Desired

N. J., Plainfield—Until May 21 by Somerset and Union Cos. steel beam deck bridge over Green Brook between North Plainfield and New Providence and over Green Brook on Norwood Ave., Plainfield. J. Doughty, Jr., Somerville, co. engr.

Pa., Allentown—Until May 21 by C. J. Dilcher, co. controller, repairing Lehigh St. Bridge.

O., Dayton—(Official)—Until May 24 by Co. Comrs. for east approach to Bridge 76, Randolph Twp., including 2661 cu.yd. embankment, 185 cu.yd. gravel, 460 lin.ft. guard rail, also repairing superstructure Needmore Rd. Bridge over Great Miami River. W. H. Aszling, clk.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Pa., Norristown**—(Official)—City let contract improving Hanover St. Bridge over Schuylkill River to Pittsburgh Constr. Co., Diamond Bank Bldg., Pittsburgh, $32,000. Noted Apr. 26.

★**Ala., Cordova**—St. Louis & San Francisco R.R. let contract bridge over Warrior River to Virginia Bridge and Iron Co., Roanoke, $125,000.

Wash., Seattle—Bridge Dept. received low bid West Spokane St. Bridge from J. A. McEachern Co., Bell St. Dock, $61,606.

★**Que., St. Felix de Valois**—Council let contract steel bridge to Phœnix Bridge & Iron Works, 83 Colbourne St., Montreal.

★**Ont., Tilbury**—Council let contract steel for 4 bridges to Stratford Bridge & Iron Co., 91-97 Erie St., Stratford.

REINFORCED CONCRETE

Proposed Work

N. J., Somerville—Bd. Freeholders plan to build rein.-con. bridges at East Cliff, East High and North Bridge St., Somerville, and near Hicks and Rocky Hill.

O., Marietta—Council soon lets contract installing rein.-con. reservoir. About $75,000. M. W. Morse, supt.

Wis., Milwaukee—Holeproof Hosiery Co., 57-59 4th St., plans 6-story, 80 x 100-ft., rein.-con. addition, with 1-story, 70 x 100-ft. extension.

Mont., Butte—Y. M. C. A. completed plans rein.-con. building at West Park and Washington Sts. About $250,000. F. Hamil, Hennessy Bldg., archt.

Tex., Hereford—(Official)—County soon lets contract building rein.-con. bridges and culverts and improving several miles earth roads. Bryant & Huffman, engrs.

Tex., San Antonio—Armour & Co., Union Stock Yards, Chicago, prepared plans 3-story, rein.-con. packing plant. About $100,000.

Wash., Olympia—Co. Comrs. appropriated $40,000 toward cost rein.-con. bridge over Des Chutes River, on West 4th St. Cost, $80,000. Noted Apr. 12.

Cal., Littlerock—Littlerock Irrigation Dist., plans to irrigate by taking flood waters from Littlerock Creek, and will construct reservoir and concrete dam, 75 ft. high and 450 ft. high. About $75,000.

Cal., San Andreas—C. W. Landis, San Francisco, applied to State Water Comn. for permission to appropriate 3000 cu.ft. per second of waters of Mokelumne River for irrigation purposes. Project includes dam 85 ft. high, 1400 ft. long on top and 1200 ft. at bottom, rein.-con. multiple arch type, capable of forming reservoir with capacity of 250,000-acre-ft. storage, located on Rancho Arroyo Seco, to water 150,000 acres. About $600,000.

Cal., San Diego—G. Cromwell, city engr., preparing plans removal of débris and excavating for foundation for Lower Otay Dam, rein. con., this work to be done by contract. Incoming City Council will decide whether dam will be constructed by contract or by City Operating Dept., of which F. M. Lockwood is mgr. About $682,200 available. M. M. O'Shaughnessy, 2732 Vallejo Ave., San Francisco, supt. con. engr. Noted May 3.

Cal., San Dimas—San Dimas Water Co. soon lets contract 7,000,000-gal. rein.-con. reservoir.

Man., Winnipeg—City plans steel and concrete bridge over Assiniboine River. About $200,000. W. P. Brereton, 223 James Ave., city engr.

Bids Desired

Mass., Brookline—(Official)—Until May 21 by Bd. Selectmen, Town Hall, for rein.-con. subway, under tracks of Boston & Albany R.R., near Beaconsfield station. H. A. Varney, town engr.

N. Y., New York—Until May 24 by Park Bd., Municipal Bldg., for concrete bulkhead along waterfront of Corlears Hook Park. Noted May 3.

Fla., Palatka—Until May 25 by Co. Comrs. building 2 rein.-con. bridges and 5 culverts. R. J. Hancock, clk.

O., Canton—Until May 21 by W. C. Schick, clk. co. comrs., new concrete arch bridge, Bethlehem Twp.

O., Hamilton—Until May 23 by W. W. Crawford, clk. bd. co. comrs., building concrete and steel bridge in Milford Twp.

Ia., Elkader—Until June 5 by County 287 ft. rein.-con. highway bridge, main span 144 ft. long. A. H. Andreae, co. aud. Advertised in this issue.

Minn., Cambridge—Until May 23 by county rein.-con. culvert, 6 x 4 x 24 ft. involving 2540 lbs. steel, 22 cu.yd. concrete. G. C. Smith, co. aud.

Mo., Oronogo—(Official)—Until May 21 by city rein.-con. reservoir, pumps, etc.

Prices and Contracts Awarded

(★Indicates award of contract)

Mass., Boston—Massachusetts Highway Comn. received low bids concrete bridge, Methuen Twp. from Middlesex Constr. Co., Medford, $22,675; Rendle & Stoddart Co., 22 Falcon St., East Boston, $12,500.

★**N. Y., Buffalo**—Buffalo Union Furnace Co., Hamburg St., let contract 800-ft. concrete dock to Great Lakes Dredge & Dock Co., Morgan Bldg.

★**W. Va., South Charleston**—E. C. Klipstein & Sons Co., 644 Greenwich St., New York City, let contract rein.-con. and steel buildings to W. L. Crowe Constr. Co., 103 Park Ave., New York City.

★**Fla., Sarasota**—City let contract concrete extension and rebuilding pier to Luten Bridge Co., West Market St., York, Pa. About $18,000.

★**Ind., Indianapolis**—County let contract rein.-con. retaining wall along Fall Creek at Millersville Rd., to Kuert Contr. Co., 608 Majestic Bldg., $15,900.

★**Ind., Indianapolis**—North Meridian Realty Co. let contract 3-story, rein.-con. automobile sales and service station at Meridian and 11th St. to International Constr. Co. About $200,000.

★**Mich., Detroit**—Detroit Motor Sales Co., Inc., Ash and West Grand Blvd., let contract 3-story, rein.-con. garage, Michigan St., to G. A. Mueller, 804 Brtmyr Bldg., $60,000.

★**Mich., Flint**—(Official)—Council let contract 2 span rein.-con. arch bridge over Flint River to Illinois Bridge Co., 53 West Jackson Blvd., Chicago, $55,000. Noted Apr. 19.

★**Wis., Milwaukee**—Monarch Mfg. Co., 79 Chicago St., let contract 5-story, rein.-con. factory, East Water St. and Bway. to Riesen Bros. Co., 1003 1st Natl. Bank Bldg.

★**Neb., Omaha**—Peterson & Pegau Co., 3610 North 30th St., let contract rein.-con. factory to W. Peterson, 300 Natl. Fidelity & Casualty Bldg., $300,000.

★**Neb., Scottsbluff**—Raymond Bros.-Clark Co. let contract rein.-con. branch wholesale house to W. J. Assenmacher Co., Lincoln. About $60,000.

★**Cal., Los Angeles**—J. J. Haggarty, 321 South Bway., let contract, 4-story, rein.-con. store building Grand Ave. and 7th St., to W. C. Crowell, 440 Chamber of Commerce Bldg., Pasadena, $66,500.

STREETS AND ROADS

Proposed Work

Mass., New Bedford—Bd. Aldermen plans to improve streets. About $200,000.

R. I., Providence—(Official)—State Bd. Pub. Rds. rejected bids road work in various twps. J. W. Patterson, engr. Noted May 3.

N. Y., Oswego—Bd. Supervs. appropriated $65,100 to build 21.7 mi. highways.

N. J., Elizabeth—Bd. Pub. Wks. plans to pave portion Linden Ave., sheet asphalt on concrete base and Mellon Pl., brick, 6-in. concrete foundation. T. E. Collins, city engr.

N. J., Weehawken—Town Council, West New York, plans to pave portion Bergenline Ave., asphalt block or bituminous concrete, concrete base. C. Swenson, clk.

Pa., Harrisburg—F. B. Blauck, highway comr., soon receives bids concrete road. About $90,000.

Pa., Harrisburg—(Official)—State Highway Dept. rejected bids opened May 3 improving roads in Alleghany, Cambria, Dauphin and Washington Cos. as amounts exceeded appropriation. New bids. Noted May 10.

Pa., Lewisburg—County plans to repair 20 mi. road. W. Frick, co. engr.

Va., Covington—City having plans prepared estimating cost paving 3 to 3½ mi. streets, sheet asphalt, asphaltic block and vitr. block; also 4½ and 5 mi. concrete curbing. About $150,000. C. P. Barnett, Covington, Ky., engr.

Va., Winchester—City plans to resurface and treat with tarvia seal coat 150,000 sq.yd. macadam roads. W. H. Hayslett, city engr.

W. Va., Charleston—Elk. Dist., Kanawha Co. postponed election to vote on $335,000 bonds for road work indefinitely. Noted Apr. 5.

W. Va., Edgewood—City voted bonds to improve streets.

W. Va., Hamlin—County voted $675,000 bonds to build roads, plans include hard surfacing 3 main roads to Cabell, Boone, Logan and Kanawha Co. lines. Noted Apr. 5.

W. Va., Martinsburg—City voted $115,000 bonds to pave streets, brick and asphalt macadam. E. D. Bromley, city engr.

N. C., Jefferson—County defeated $200,000 bond issue to build roads. Noted Apr. 19.

S. C., Abbeville—County election Aug. 7 to vote on $300,000 bonds to build roads.

Ga., Montezuma—City election May 30 to vote on $25,000 bonds to pave streets.

Ga., Thomasville—City voted $160,000 bonds to pave streets and improve water and light plant; also for new fire alarm system. W. Miller, city engr. Noted Apr. 19.

Fla., Gainesville—County voted $500,000 bonds to build roads and bridges, Dist. No. 5. W. B. Taylor, bond trustee.

Fla., Tampa—County voted $100,000 bonds to build 13.7 mi. hard-surface roads, also necessary bridges. Noted Apr. 5.

Miss., Yazoo City—County rejected bids 247,000 sq.yd. asphalt surfacing in Supervs. Dist. No. 3. New bids. G. R. Thomas, engr.

Miss., Yazoo City—City rejected bids improving roads, Dist. No. 1. New bids. G. R. Thomas, engr.

Tenn., Athens—County defeated $300,000 bonds to build roads. Noted Apr. 19.

Tenn., Centreville—County plans to build 45-mi. road. Bonds for $225,000 recently voted for project.

Tenn., Erwin—County voted $100,000 bonds to build roads.

Tenn., Maynardville—County receiving bids about June 21 building macadam roads. About $50,000. J. McDonald, Maynardville, engr. Noted Apr. 5.

Tenn., Wartsburg—Pike Rd. Comn. soon lets contract building 30 mi. roads. About $200,000. G. Davis, chn. Noted Apr. 19.

Ky., Covington—City sold $20,000 bonds to extend Holman St. H. G. Meiners, city engr.

O., Cleveland—City plans to improve portion East 55th, Sideway, Remusand, East 129th Sts. R. Hoffman, city engr.

O., Fostoria—City plans to grade, curb and pave portion Popular St. C. A. Latshaw, city engr.

O., Marietta—City plans to pave portion Spring, Vine, Poplar, Chestnut and Holley Sts. F. Gates, city engr.

O., Newark—City plans to pave portions Evans, Bunea Vista, St. Clair and Florence Sts. and Arlington Ave. C. H. Wells, city engr.

O., St. Bernard—(Official)—(Cincinnati P. O.)—City to sell $70,000 bonds May 31 to grade, resurface, pave and set curbs and repair roadways in portions Tower, Washington, Sullivan and Railroad Aves., Bertus and Albert Sts. W. L. Taylor, aud.

O., Toledo—State and County plans to rebuild River Rd., south of Maumee. About $150,000; cost to be divided equally between state and county.

O., Toledo—State appropriated $35,975 to rebuild Jerusalem Rd. and resurface Central and Detroit Aves.

Mich., Ganges—Town voted $50,000 bonds to improve roads.

Mich., L'Anse—County plans to spend $450,000 to build 55-mi. road.

Ill., Rock Island—City Council passed ordinance for brick paving on portions of 13th Ave., $20,448; 24th St., $21,330; 24½ St., asphalt, $10,899. W. Treichler, city engr.

Wis., Appelton—County plans to spend $450,000 to build concrete roads during year.

Wis., Hartford—County plans election to vote on $500,000 bonds to build roads. A. Thielman, co. aud.

Wis., Racine—County plans to spend $90,380 to build roads during year.

Minn., Aitkin—State appropriated $18,000 bonds for road and bridge work in county during year.

Streets and Roads (Continued)

Minn., Bagley—County plans to spend $72,000 to build portion Jefferson Highway. H. K. Rude, co. aud.

Minn., Chisholm—Village plans to pave 6 blocks, cost $12,000; also build sidewalks and curbs to cost $10,000. B. E. Culver, clk.

Minn., Olivia—State appropriated $17,000 to build roads and bridges in county. J. L. Johnson, co. aud. Noted Apr. 19.

Minn., Red Wing—State to appropriate $18,500 to build roads in county. C. H. Mayer, co. aud.

Minn., Stillwater—County to sell $10,000 bonds to pay share toward building road around White Bear Lake.

Minn., Wabash—County plans to spend $20,000 to improve roads. J. E. Schmidt, chn. bd. comrs.

Mont., Bozeman—Council plans to grade and pave South Black Ave. et al. Cost $12,817 to $17,501. C. C. Widener, city engr.

Mont., Livingston—County plans to spend $60,000 to build highways between Livingston and Gardiner. C. A. Burg, co. clk.

Tex., Bastrop—County election May 26 to vote on $150,000 bonds to build roads in Elgin Precinct.

Tex., Boerne—County voted $40,000 bonds to build roads.

Tex., Bonham—County plans election to vote on $12,000 bonds to build roads, Hail Rd. Dist.

Tex., Cold Spring—County election May 19 to vote on $35,000 bonds to build roads, Rd. Dist. No. 3.

Tex., Dallas—County plans to spend $700,000 to build roads during year.

Tex., Hereford—See "Reinforced Concrete."

Tex., Mt. Vernon—County election May 19 to vote on $1,000,000 bonds to build roads.

Tex., Naples—County election May 24 to vote on $30,000 bonds to build roads in Naples Precinct.

Tex., Newton—County election June 5 to vote on $100,000 bonds to build roads in Precinct No. 1, including Deweyville.

Tex., Paris—County defeated $1,000,000 bonds to build roads.

Tex., Van Alstyne—County plans election to vote on $140,000 bonds to build roads, Van Alstyne Good Rd. Dist. Address Co. Clk., Sherman.

Okla., Ardmore—City lets contract about June 1 paving 12 blocks, rein.-con. and 6 blocks, asphaltic concrete on macadam base. A. Watson, city engr.

N. M., San Jon—City election June 9 to vote on $94,000 bonds to improve roads and build bridges.

Utah, Provo—County voted $750,000 bonds to build roads.

Ariz., Tucson—A. Goetz, co. engr., preparing plans resurfacing Speedway and rebuilding portion Wilmot Rd.

Wash., Wapato—Council plans to lay concrete cement sidewalks on Wapato Ave. et al. About $15,000.

Wash., Waterville—County soon receives bids building permanent highways Nos. 4-A and 5. R. F. Foster, co. engr., preparing plans.

Cal., Fresno—Bd. Trustees plan to improve Grant Ave. B. E. Cronkite, city engr.

Cal., Fresno—S. McKay Co., surv., making surveys building 5-mi. road, eastern section of county.

Cal., Martinez—Bd. Supervs. plans to build highway between Concord and Pittsburg.

Cal., Sacramento—State Highway Comn. rejected bids paving Highways Nos. 13 and 15, 5.43 mi., Sacramento-Freeport Rd. and 3.36-mi. Pocket Rd. New bids.

Cal., San Diego—City plans to pave 24 mi. highways between center of city and Torrey Pines. About $206,000. G. Cromwell, city engr.

Cal., San Diego—G. Cromwell, city engr., estimated cost paving East Blvd. at Ocean Beach and Old Town routes at $206,375.

Que., Montreal—Bd. Control appropriated $103,000 to pave streets. P. E. Mercier, city engr.

Bids Desired

N. Y., Albany—(Official)—Until May 21 by Bd. Contract and Supply brick paving, concrete and vitr. brick walks, vitr. pipe sewers and appurtenances in portions Bradford and Rawson Sts. I. Wachsman, secy.

N. Y., Albany—Until May 28 by W. W. Wotherspoon, state comn. highways, 55 Lancaster St., repairing highways in various counties; advertised in this issue.

N. J., Jersey City—(Official)—Until May 29 by Bd. Comrs. paving portion St. Paul Ave., brick and repaving portion West Side Ave., granite block. M. I. Fagen, clk.

N. J., Jersey City—(Official)—Until May 25 by Blvd. Comrs. of Hudson Co., Court House, for repaving 3 sections Hudson Blvd.; advertised in this issue.

N. J., Lakewood—(Official)—Until June 2 by G. H. Hurlburt, twp. clk., paving portions of Lexington, 4th, East 4th and Clover St., concrete; advertised in this issue.

N. J., Weehawken—Until May 22 by Town Council, West New York, paving portion Jackson St. and Murphy Pl., asphalt block or bituminous concrete, concrete base. C. Swenson, clk.

N. J., Westfield—(Official)—Until June 4 by town council, improving various streets; advertised in this issue.

N. J., Wildwood—(Official)—Until May 26 by Boro. for gravel shouldering boulevard approach to Wildwood, 1½ mi. L. Rice, engr.

Pa., Grove City—Until June 1 by L. L. McKay, boro. secy., for paving, curbing and grading portions Blaine and 2nd Sts.; advertised in this issue.

Pa., Harrisburg—Until June 12 by Pennsylvania State Highway Dept. for road work in various twps.; advertised in this issue.

Va., Richmond—Until May 21 by State Highway Comn. for 1-mi. gravel road between Osborne Turnpike and Wilson's Mill, Henrico Co., also 25-ft. rein.-con. bridge over Deep Creek. G. P. Coleman, comr.

W. Va., Fayetteville—Until June 11 by Fayette Co., Sewell Mountain Dist., for road from Thurmond to Echo Mountain Rd., 1.8-mi., to include retaining walls. T. F. Malloy, Landisburg, rd. engr.

W. Va., Fayetteville—Until June 11 by Fayette Co. for grading and draining James River and Kanawha Turnpike, Falls Dist., from Kanawha Co. line to Mountain Cove Dist. line, 14.5-mi., including retaining walls. T. F. Malloy, Landisburg, rd. engr.

N. C., Hickory—Until May 24 by J. W. Balew, city mgr., paving 40,000 sq.yd., sheet asphalt. J. N. Amber, engr.

N. C., Yadkinville—Until June 5 by Co. Comrs. for 27-mi. sand clay roads. E. C. Mayberry, secy.

S. C., Charleston—Until May 29 by J. H. Dingle, city engr., paving 20,000 sq.yd. sheet asphalt, and 1000 sq.yd. creosoted wood block.

Fla., Ft. Lauderdale—Until June 5 by County surfacing 15-mi. road, A, B, C and D. Special Rd and Bridge Dist. No. 1; plans call for rock surfacing only, 12 ft. wide, 8 in. thick. H. C. Davis, engr.

Miss., Clarksville—Until May 22 by City Comrs. paving 30,000 sq.yd. asphaltic concrete, 7000 lin.ft. curb and gutter, inlets, etc. W. S. Bobo, city engr.

Miss., Greenville—(Official)—Until May 30 by Highway Comn., surfacing 180,000 sq.yd. highways; advertised in this issue.

La., De Ridder—Until May 21 by County building 138.15-mi. road. L. S. Bryant, engr.

Ky., Owensville—Until May 28 by I. H. Hickman, mayor, surfacing 44,000-sq.yd. macadam streets with asphalt. H. M. Talbot, city engr.

Ky., Paducah—Until May 19 by G. G. Singleton, co. clk., resurfacing 35 mi. roads with gravel and 3 mi. concrete, rock, asphalt, tarvia or asphaltum penetration, involving 115,686 cu.yd. excavation, 52,077 cu.yd. gravel surface, 1222 cu.yd. concrete. Noted Apr. 5.

O., Cleveland—Until May 29 by City, improving Forest Hill Pkwy. R. Hoffman, city engr.

O., Dayton—Until June 2 by Co. Comrs., paving portion Keowee St. About $56,000. Noted May 10.

O., Dayton—(Official)—Until May 24 by Co. Comrs. paving Central Ave. through village of West Carrollton, brick. W. H. Aszling, clk.

O., Johnstown—(Official)—Until May 22 by E. H. French, village clk., improving portion Coshocton St., brick on concrete base.

O., Orrville—(Official)—Until May 21 by A. Jenny, village clk., improving portion South Main St.

Indiana—By Co. Comrs. for building roads as follows: May 25: Anderson, 2 gravel roads, Stoneycreek Twp., brick and brick and concrete road, Anderson Twp., E. T. Flahavin, aud. May 31: Evansville, road in Armstrong Twp., C. P. Beard, aud. June 5: Rensselaer, 2 stone roads, Marion Twp., 6 stone roads, Barkeley Twp., J. P. Hammond, aud. Corydon, stone road, on line Spencer, Scott and Harrison Twps. S. C. Mauck, aud. Knox, roads in Washington and Center Twps. C. W. Weninger, aud. June 6: Shelbyville, completion of unfinished road improvement, Sugar Creek Twp. F. W. Fagel, aud. June 7: Valparaiso, gravel road, Union Twp. C. A. Blachy, aud.

Mich., Nashville—Until May 31 by F. K. Nelson, village clk., paving and improving portion Main St., brick; advertised in this issue.

Minn., Roseau—Until May 21 by county building Clear River State Rd. A. Chapin, co. engr.

Ark., Jonesboro—Until May 22 by Bd. Comrs. St. Improv., Dist. No. 16 for paving streets involving 154,000-sq.yd., vitr. brick, asphaltic concrete, bitulithic and bitustone, 7,860 lin.ft. plain curbing, 129,000 lin.ft. combined curb and gutter, 30,000 cu.yd. excavation, 160 inlets, 400 ft. 12-in., 1200 ft. 15-in., 6300 ft. 18-in. and 450 ft. 24-in. vitr. pipe, 1450 ft. 36-in. 1 ring brick sewer. E. C. Stuck, pres.

Ark., Russellville—Until May 30 by Comrs. Paving Improv. Dist. No. 1 paving 24,000 sq.yd. concrete, asphaltic macadam or tarvia; [illegible] 16,000 lin.ft. 12-in. curbing.

Colo., Boulder—Until June 5 by City for paving streets. G. R. Joslyn, city engr. Noted May 10.

Wash., Everett—Until May 28 by Co. Comrs. hard surfacing portion Bond Issue Proposition No. 18. M. Weatherbee, co. aud.

Wash., Montesano—Until May 28 by W. D. Campbell, co. aud., building 1-mi. road, asphaltic concrete, concrete base.

Wash., Olympia—Until May 28 by State Highway Bd. surfacing 7.25-mi. Inland Empire Highway.

Wash., Port Angeles—(Official)—Until May 29 by City Clk. paving 2nd and 3rd Aves., concrete, cost, $23,100; also installing sewers in 1st St. Noted Apr. 19.

Wash., Sprague—Until May 27 by J. F. Hall, city clk., paving, curbing and draining 13 blocks. Sawyer Bros., Lindell Blk., Spokane, engr. Noted Apr. 12.

Ore., Monmouth—(Official)—Until May 22 by R. B. Swenson, city recdr., paving 5300 sq.yd. 5½-in. concrete base and 2-in. wearing surface, etc.

California—(Official)—Until May 28 by State Highway Comn., 515 Forum Bldg., Sacramento, paving 8.4 mi., Solano Co., Batavia to Putah Creek; 9 mi., Santa Barbara Co., Zaca Station to Los Alamos; 9 mi., Tulare Co., Visalia to Tulare; 4.9 mi., Ventura Co., Santa Clara River to Ventura; portland cement concrete. A. B. Fletcher, highway engr.

Cal., Santa Barbara—(Official)—Until May 24 by A. Christine, city clk., improving portion Bath Ave., concrete curbs, 3-ft. gutter, 4-in. concrete base, 1½-in. warrenite surface. About $65,000. A. B. Cook, city engr.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Mass., Boston**—Massachusetts Highway Comn. let contract building highway Grafton Twp. to R. H. Newell & Co., Uxbridge, $50,760.

★**Mass., Boston**—Boston Transit Comn., 15 Beacon St., let contract paving Summer St. and Dorchester Ave. to H. S. Clark, 11 Montague St., Dorchester, $65,789.

Mass., New Bedford—Massachusetts Waterways Comn. received low bids furnishing and laying granite block paving on State Pier from G. Ferullo & Co., Boston, $14,560, H. C. Lawton, 407 Union St., New Bedford, $15,050; Simpson Bros. Corp., 166 Devonshire St., Boston, $15,225; if local block is used La France & Roesbeck Co., New Bedford, $13,615 and G. Ferullo & Co., Boston, $13,930.

N. Y., Albany—(Official)—State Highway Comn., 55 Lancaster St., received low bids May 7 improving highways in various counties as follows: Road No. 1447, Brant-North Collins, Erie Co., 4.50 mi., Rossney Contract. Corp. Buffalo, $74,409; Road No. 1490, Barnes Corners-West Lowville, Part 1, Lewis Co., 5.37 mi. Dale Eng. Co., Utica, $57,940; Road No. 410, Fort Plain-Hesseville-Sprout Brook, Montgomery Co., 5.66 mi., W. C. Flannery, Oneonta, $47,826.81; Road No. 5605, Utica City-Oneida St., Oneida Co., 0.53 mi., H. W. Roberts & Co., Utica, $27,649; Road No. 5640, Camden Village, Church, Main and Mexico Sts. Oneida Co., 1.27 mi., H. W. Roberts Co., Utica, $56,262, Wm. Brennan, Herkimer, $56,289; Road No. 1506, Jordan-Baldwinsville, Part 1, Onondada Co., 5.52 mi., Dale Eng. Co., Utica, $63,995; Road No. 5630, Weedsport-Jordan, Part 2, Onondaga Co., 1.76 mi., C. F. Sullivan, Syracuse, $10,982; Road No. 1502, Short Clove, Rockland Co., 0.21 mi., E. Cavallo, Haverstraw, $15,472, County of Rockland, Stony Point, $15,618, J. A. Jova, Newburgh, $16,635; Road No. 5577, Middleburg-Breakabeen, Schoharie Co., 7.96 mi., Lane Constr. Corp., Meriden, Conn., $130,867; Road No. 1103, Hartsville-Canisteo, Steuben Co., 5.59 mi., Kennedy Constr. Co., Albany, $98,465; Road No. 1048, Smithtown-Fort Salonga, Part 1, Suffolk Co., 3.87 mi., R. W. Smith Corp., New York City, $13,989, James McAvoy, New York City, $17,409; Road No. 1464, High Falls-Stone Ridge, Ulster Co., 1.80 mi., Conway Brothers & Kennedy, Edyville, $28,724, J. Walker, Albany, $28,974; Road No. 5606, Tuckahoe-White Plains, Part 2, Westchester Co., 2.74 mi., J. McAvoy, New York City, $67,809, Wilkes-Casey Eng. & Contstr. Co., New Rochelle, N. Y., $80,303. Noted May 4.

N. Y., New York—(Official)—City received low bids regulating and repaving portion 5th Ave. from Asphalt Constr. Co., Madison Ave. and 137th St., $55,284.

N. J., Bound Brook—(Official)—Mayor and Boro. Council received low bids paving 11,400 sq.yd. brick, (a) Penn Clay, (b) Bessemer, (c) Clydedale, (d) Mack, (e) Mayer, (f) United, (g) Medal, from S. Sampson, 902 Bond St., Elizabeth, (a) $36,708, (b) $36,936; Hickey & Houghton, Somerville, (a) $41,522, (b) $41,118, (c) $41,724, (d) $41,838; Frank Cannon, 522 Tilghman St., Allentown, (b) $44,232, (c) $42,198, (d) $42,522, (e) $42,066, (f) $43,206, (g) $41,004. Noted Apr. 26.

Streets and Roads (Continued)

★N. J., **Cranford**—Bd. Freeholders let contract paving Springfield Ave. to J. Dorer, Irvington, $58,939.

★N. J., **East Orange**—Council let contract paving Washington Ave. to R. Sangiovanni, 78 Hoyt St., Newark., $52,080.

★N. J., **Elizabeth**—(Official)—Bd. Freeholders let contract repairing 2 streets involving 19,157-sq.yd. concrete foundation to C. H. Wiman Co., Elizabeth, $19,953. Noted May 3.

★N. J., **Newark**—Bd. Freedholders let contract paving portion Franklin St. to Northern Constr. Co., 665 Broad St., $139,496.

★Pa., **Bradford**—(Official)—City let contract paving 7 streets, 28,000 yd., to J. Johnson Constr. Co., 765 Abbot Rd., Buffalo, and W. Applegate, Bradford. Noted Apr. 12.

★**Md., Denton**—County let contract building 1½-mi. stone macadam road from Federalsburg toward Preston to Juniata Paving Co., Phila., $16,000. Noted Apr. 19.

★**W. Va., Clarksburg**—County let contract grading and paving portion Fairmont and Clarksburg pike and Bingamon Rd to Atlantic Bitulithic Co., Richmond, Va. Noted Apr. 19.

★**N. C., Louisburg**—Town Comrs. let contract paving 40,000-sq.yd., asphalt, also concrete curb and gutter to R. G. Lassiter, Oxford.

★**S. C., Greenville**—City let contract paving 50,000 sq.yd. streets to West Constr. Co, Chattanooga, Tenn., $94,386; 6000 sq.yd. sidewalks to Greenville Tile Co., $11,095.

★**Fla., Taveres**—(Official)—Bd. Co. Comrs. let contract 20-mi. road to W. H. Fox Constr. Co., Dortch Ave., Nashville, Tenn., $59,000. Noted May 3.

★**Ala., Birmingham**—City let contract paving various streets to H. M. Bowdry, Empire Bldg., $27,753.

★**La., Lake Charles**—County let contract 70,000-sq.yd. concrete roads to Chapin-Colgalizer Constr. Co., 427 Moore Bldg., San Antonio, Tex., Hecker Rd., dirt, F. P. Constant, Alexandria; graveling and shelling Vinton-Cameron Rd., E. L. Farmer, Lake Charles. Total cost, $150,000. Noted Apr. 26.

★**O., Cincinnati**—Bd. Control let contract paving portions Linwood and Delta Aves. to Kirchner Constr. Co., 221 West 9th St., $30,181.

★**O., Cleveland**—County let contract paving Ingersoll and East 54th Sts. to A. M. Pejsa Paving Co., 2370 East 93rd St., $50,230; Colt Rd. to McHugh Bros., $15,604. Noted Apr. 19.

★**Ind., Vincennes**—(Official)—County let contract 2 brick roads to S. R. Adams & Co., Princeton; 3 gravel roads to A. Hart, Sanborn; H. Peden, Sanborn, and W. L. Brocksmith, Freelandville. Noted Apr. 19.

★**Mich., Ontonagon**—(Official)—County let contract grading roads as follows: 6 mi. to Smith Sparks Constr. Co., Houghton; 8 mi. to W. S. Peters, Wakefield; 5 mi. to J. E. Nicholson, Marenisco; 6 mi. to Helli & Celle, Ironwood; 11 mi. 9-in. macadam to Latrell Co., Seney.

Ill., Chicago—County received low bids paving 206,694-sq.yd., Main, Elk, Grove, Schaumburg, Hanover and Harrington Twps., from Commonwealth Improv. Co., 179 West Washington St., $446,508.

★**Minn., Virginia**—(Official)—City let contract paving 21 blocks and building cement sidewalks on 21 blocks to L. McCann, Eveleth; curb and gutters to Resberg-Marvick Co., Virginia; storm sewers to C. Christopherson, Virginia. Noted Apr. 26.

★**Kan. Lawrence**—City let contract paving Elm and Winona Sts., and portions Illinois and 13th Sts., to A. R. Young Constr. Co., Lawrence.

★**S. D., Spearfish**—(Official)—City let contract building crosswalks, sidewalks, culverts during year to S. Thompson, Spearfish, sidewalks 13c. per sq.ft., crosswalks 18c. and culverts $1 per ft. Noted Apr. 26.

★**Mo., Joplin**—City let contract paving portion Wall St. to Granite Bituminous Co., 409 Pierce Bldg., St. Louis, $1.85 per sq.yd.

★**Ark., Des Arc**—City let contract building 5½ mi. concrete sidewalks to P. F. Conley, Little Rock. Noted Apr. 26.

★**Ark., Forrest City**—County let contract 40-mi. road, Dist. No. 3, to Herring & Schellhous, Forrest City.

★**Ark., Little Rock**—Co. Rd. Improv. Dist. No. 15 let contract crushed stone to be used in building new district to Big Rock Stone & Constr. Co., 111 Center St., $240,000.

★**Tex., Corpus Christi**—Co. Comrs. let contract paving portion Timon Blvd., to W. L. Pearson & Co., 705 Stewart Bldg., Houston, $40,000.

★**Tex., Hereford**—(Official)—County let contract 14.3-mi. highways to Dyar & Tiefel. Noted Apr. 26.

★**Utah, Ogden**—City let contract paving streets in Dist. No. 125, to P. J. Moran, Inc., 504 Felt Bldg., Salt Lake City, $121,915. Noted May 10.

★**Ariz., Nogales**—County let contract rebuilding and repairing county road from Oro Blanco to Montano Mines Co., Nogales, Ariz., $17,000.

★**Ariz., Yuma**—(Official)—City let contract paving 32,000-sq.yd., bitulithic, to O. & C. Constr. Co., Yuma. About $84,000. Noted Apr. 26.

★**Wash., Olympia**—State Highway Comr. let contracts building highways as follows; 1-mi. Pacific Highway to Allred & James, Centralia, $10,728; 1-mi. Sunset Highway, Sloan Bros., Box 348, Seattle, $11,846; 1-mi. Inland Empire Highway, Asphalt Paving Co., Hutton Bldg., Spokane, $18,282; 33-mi. State Rd. No. 23, Bitumass Paving Co., Spokane, $17,484; 11-mi. Sunset Highway, Gallagher & Mead, Auburn, $16,494. Noted May 3.

★**Wash., Olympia**—Council let contract paving Sylvester and Water Sts. to Independent Asphalt Paving Co., Northern Bank and Trust Bldg., Seattle, $11,365. Noted May 4.

★**Wash., Pomeroy**—City let contract paving 13,800-sq.yd., 11,450 lin.ft. gutters, 5250-yd. excavation, drainage, conduits, etc., to Clifton Applegate Co., Hutton Bldg., Spokane, $35,236.

★**Cal., Oakland**—City let contract improving 85th and 86th Aves. to Hutchinson Co., 13th and Franklin Sts.

★**Cal., Sacramento**—City let contract paving 6.3-mi., highway No. 11, Galt-New Hope Rd., to A. Teichert & Son, Ochsner Bldg., $31,589.

★**Que., Quebec**—Rd. Comn. let contract asphaltic concrete pavement to Laganiere, Houde & Co., Grondins, $145,000.

★**Ont., London**—City let contract improving streets as follows: Foundations to W. J. Boss, 853 Maitland St.; asphalt to Imperial Oil Co., 56 Church St., Toronto; cement to Hayman & Milla, 280 Maitland St., and W. Copp, 93 York St. Total cost, $82,000.

★**Ont., Ottawa**—City let contract road oil to Imperial Oil Co., Cartharine St.; refined tar to Paterson Mfg. Co., 2021 St. Hubert St., Montreal.

★**Ont., Sarnia**—Dept. Pub. Wks. let contract concrete pavement to McRae & Capagne, Niagara Falls, N. Y., $25,600.

★**Ont., Toronto**—Bd. Control let contract paving Greenwood, Kingswood and Silverbirch Sts., asphalt, Kingswood St., asphaltic concrete, to Godson Contr. Co., Manning Chambers; Kingswood St., brick block, to Asphaltic Concrete Co., Excelsior Life Bldg.; concrete walks on Kingswood St. to Riverdale Concrete Paving Co., 264 Jones Ave.; concrete walks on Mitchell Ave. to R. C. Harris, comr. wks.

RAILWAYS, STEAM AND ELECTRIC

Proposed Work

New York—Catskill Mountain Ry., recently incorporated with $100,000 capital stock, will build narrow-gage surface railway to be operated either by steam, gasoline or electricity. T. E. Jones, Catskill, gen. supt., freight and pur. agt.

New Jersey—Eastern Transit Line, Inc., Weehawken, incorporated with $350,000 capital stock, will construct and operate general passenger, freight and transportation line in New Jersey. L. H. Smith, 911 Blvd., Weehawken, vice pres.

North Dakota—Great Northern Ry. will double track main line from Minot, N. D., to Mountain Division west of Cut Bank, Mont., to relieve congestion and divisional trouble. A. H. Hogeland, 4th and Jackson Sts., St. Paul, ch. engr.

Montana—Billings Railway, Light & Power Co., Billings, will construct street railway system. About $150,000. J. B. Arnold, secy.

Montana—Great Northern Ry. plans extending branch line from Stanford to iron deposits on Running Wolf Mine in Belt Mountains. A. H. Hogeland, 4th and Jackson Sts., Chicago, ch. engr.

Texas—Kansas City, Mexico & Orient R.R., (company under new management), will soon begin construction on proposed line from San Angelo to Del Rio, where it will connect with transcontinental line of Southern Pacific Ry.; about 120 mi. G. S. Everitt, Wichita, Kan., supt.

Texas—Standard Utilities Constr. Co. making surveys interurban line, via Denison, Denton, Slidell and Dallas. A. V. Demayo, New York, vice pres. and gen. mgr. Noted May 3.

Texas—Texas Electric Light & Power Co., recently organized with $200,000 capital stock, plans street railway in San Angelo and interurban line to Ballinger, 30 mi. C. W. Hobbs, San Angelo, pres.

California—G. L. Hardison, Rialto Bldg., San Francisco, reported interested in project to build railway from point near Hopland to Lakeport, about 24 mi., for which $200,000 has been subscribed.

California—Amargosa Valley R.R., recently incorporated with $250,000 capital stock by T. C. Job, 1100 Garland Bldg., L. M. Farnham, 913 East 20th St., E. E. Sweeney, 642 Juanita Ave., and associates, all of Los Angeles, will construct 16.21-mi. railway through "Salt Basin," San Bernardino Co., from point on Tonopah & Tidewater R.R., 69 mi. north of Ludlow and extending to plant of Avawatz Salt & Gypsum Co., 1112 Garland Bldg., Los Angeles, on north slope of Avawatz Mountains.

California—Pacific Electric Ry. plans extension from Glendora to San Dimas. J. McMillan, Pacific Electric Bldg., Los Angeles, gen. mkr.

California—Western Pacific R.R. acquired part of line of Nevada-California-Oregon Ry. and will take up track from Hackstaff Crossing (Amedee P. O.) to Plumas Junction, 30 mi., and from Plumas Junction to Davies (Boca P. O.), 40 mi.; also standard gage line will be constructed from Chilcoot near Plumas Junction to Reno, Nev., part of which will be on old roadbed. T. J. Wyche, Mills Bldg., San Francisco, ch. engr.

Ontario—City Council, St. Thomas, plans to extend street railway. About $40,000. M. Ferguson, engr.

Ontario—Dominion Railway Bd. approved plans of Canadian Pacific Ry. for double tracking line from North Toronto to Leaside, including 2 bridges over ravines, the one over Summerhill Ave. ravine to be a double-deck bridge. A. Purvis, Toronto, gen. supt., Ontario Dist.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Pennsylvania**—Southern Pennsylvania Traction Co., let contract double-tracking Chester-Darby line on Chester Pike to Brubaker Paving Co., Huntington, W. Va. Noted Apr. 19.

★**Washington**—Chicago, Milwaukee & St. Paul Ry. will electrify 200 mi. road from Othello toward Seattle and Tacoma, by company's forces. C. F. Loweth, Railway Exchange Bldg., Chicago, ch. engr.

EXCAVATION AND DREDGING

Proposed Work

N. Y., New Rochelle—Dredging—City plans to dredge Echo Bay and make improvements in inner harbor to afford entrance to new city docks. J. A. Hadert, city engr.

Miss., Greenville—Drainage—Black Bayou D.D. soon lets contract draining about 100,000 acres in Washington Co. Morgan Engr. Co., engrs., Goodwin Institute Bldg., Memphis, made surveys.

Tenn., Alamo—Drainage—Ferree & McClesky, 11 South 2nd St., Memphis, completed preliminary surveys for Middle Forked Deer D.D., Crockett Co., for which $50,000 bonds will be issued.

O., Marion—Dredging—Marion and Delaware Cos. plan to dredge, deepen and widen Scioto River to drain land in Claiborne, Jackson and York Twps.

Ind., Bluffton—Ditch—County estimates cost of J. S. DeLong Drain, tiling Bill's Creek and construction of ponds south of Bluffton at $36,084.

Ind., Rochester—Ditch—County soon receives bids Eddy Creek Ditch. About $98,000.

Ia., Council Bluffs—Dredging—E. E. Spetman, city engr., submitted report advising city of dredging Indian Creek from 19th St. to Missouri River. Bids for work will soon be received.

Ia., Ft. Dodge—(Official)—Drain—County rejected bids Drain No. 250. J. L. Hanrahan, Ft. Dodge, co. aud. Noted May 3.

Minn., Jackson—Ditch—County rejected bids Judicial Ditch No. 45. P. D. McKellar, co. aud.

Minn., Montevideo—Ditches—County plans to sell $40,000 bonds to construct Ditches Nos. 21, 23, 27 and 33. J. J. Stennes, co. aud.

Tex., Beaumont—Channel, etc.—City plans to issue $300,000 bonds to improve Beaumont deep water channel and harbor. C. L. Scherer, city engr.

Ore., Portland—Drainage—Berry & Cunningham, engrs., Spaulding Bldg., will receive bids about June 10 for draining 4400 acres land for Wahkiakum D. D. No. 2, near Cathlamet, including 20 mi. dykes, installing tidegates and pumping plants.

Cal., El Centro—Irrigation—Imperial Irrigation Dist. will hold election May 26 to vote on $2,500,000 bonds to improve system. C. K. Clarke, ch. engr.

Cal., Littlerock—Irrigation—See "Reinforced Concrete."

Cal., Placerville—Irrigation—Western States Gas and Electric Co. of California having surveys and application made to State Railroad Comn. for permission to irrigate land in Eldorado Co. by driving tunnel at Echo Lake to draw level of lake 40 ft. below natural outlet; tunnel to be 5 x 6½ ft. in cross-section and 2600 ft. long; total outfall to be utilized is 600 ft. from dam to waterwheel nozzle, water to be returned to south fork of American River after use. Appropriation will be 20,000 acre-ft. from Medley and Echo Lakes in Eldorado Co., and Twin Lakes in Alpine Co. to develop 2500 hp. at plant of American River Electric Co. for 7 months. S. Kahn, Stockton, vice pres., treas. and gen. mgr.

Cal., Sacramento—Canal—Preliminary surveys completed for ship-canal from Sacramento to Suisun Bay, 37.62 mi.; width on bottom, 100 ft. About $1,000,000.

Cal., San Andreas—Irrigation—See "Reinforced Concrete."

Cal., San Bernardino—Irrigation—F. M. Walton, 1326 Las Palmas Ave., Los Angeles, and associates applied to Bd. Superv. for permission to form Victor Valley Irrigation Dist., comprising about

Excavation and Dredging (Continued)

100,000 acres along Mohave River, to take over Arrowhead Reservoir and Power Co.'s Little Bear Valley dam and construct irrigation system. About $6,000,000. J. B. Lippincott, Central Bldg., Los Angeles, engr.

Bids Desired

N. Y., Brooklyn—Ditch—Until May 24 by L. H. Pounds, boro. pres., temporary storm relief drainage ditch in right-of-way owned by city in former Paerdegat Ave. N., and former Paerdegat Basin from East 51st to Bedford Creek.

La., Youngsville—Drainage—Until May 29 by Comrs. Youngsville D. D., dredging and draining canals, about 62 mi., also removal of about 500,000 cu.yd. earth. Bonds for $60,000 have been sold. B. F. Flanders, Youngsville, chn.

Tenn., Brownsville—Drainage—Until May 30 by Mud Creek D. D., Hayward Co., involving 50 acres clearing for right-of-way, 88,469 cu.yd. excavation. J. Tipton, F. P. Hess and C. Lomax, dirs.

Ky., Paducah—Excavation—See "Streets and Roads."

Ind., Peru—(Official)—Ditch—Until May 26 by C. E. Dice, co. surv., for Philip Miller Ditch, Deer Creek Twp., main ditch, 2742 ft. long and branch ditch No. 1, 542 ft. long, requiring about 3300 ft. tile various sizes. C. Rose, constr. comr.

Ill., Rushville—(Official)—Pumping Plant—Until June 1 by Comrs. Kelly Lake Drainage and Levee Dist.; advertised in this issue.

Ill., Watseka—Drainage—Until May 19 by Comrs. Pond Lily D. D. No. 1, Iroquois Co., for open ditches and tile drains requiring about 146,620 ft. excavation.

Ia., Algona—(Official)—Drainage—Until June 12 by Bd. Supervs. for tile work for D.D. No. 133 (readvertised). Noted May 3.

Ia., Charles City—Drainage—Until May 22 by County for D. D. No. 3, involving 13 rein.-con. headwalls, 57 surface water intakes, 110,370 cu.yd. excavation; 3500 ft. 36-in., 5500 ft. 34-in., 1800 ft. 32-in., 900 ft. 30-in., 1000 ft. 22-in., 8000 ft. 20-in., 11,628 ft. 18-in., 2500 ft. 16-in., 5200 ft. 15-in., 4900 ft. 14-in., 15,848 ft. 10-in. and 23,803 ft. 8 in. tile; 6726 ft. 6- to 35-in. tile connections. C. R. Jones, co. aud.

Ia., Ft. Dodge—Drainage—Until May 25 by Bd. Supervs., Boone and Webster Cos., for Boone-Webster Joint Drain No. 2-222, involving 66,141 cu.yd. open ditch and 31,956 ft. tile. J. L. Hanrahan, Ft. Dodge, aud. Webster Co.

Ia., Jefferson—Drainage—Until May 23 by Bd. Supervs., Greene and Webster Cos., Jefferson, for about 158,000 ft. tile of various sizes for Joint Drain No. 110 in Green Co. and No. 221 in Webster Co. B. S. McCully, Jefferson, co. aud.

Minn., Luverne—Ditch—Until May 26 by O. Skyberg, co. aud., for Judicial Ditch No. 3, requiring 2480 cu.yd. open work and furnishing and laying 43,000 ft. tile, various sizes. About $19,773.

Minn., Stillwater — (Official) — Ditch — Until May 26 by N. A. Nelson, co. aud., for Judicial Ditch No. 1. About $14,000. Noted May 3.

Kan., Scandia—(Official) — Drainage — Until June 1 by L. N. Hendrix for D.D. No. 1, involving cleaning and straightening channel and bed of Mud Creek; enlarging and strengthening main levee and construction of riprap along south and west bank of Republican River. Noted Apr. 26.

Neb., Fremont—(Official)—Ditch—Until June 5 by W. E. Barz, co. clk., Blomendahl Ditch, involving 50,079 cu.yd. excavating, at 15c., no clearing; 23 89 cu.yd. excavating at 25c., or stone; digging will begin at Hooper, on Chicago & Northwestern R.R. W. M. Sanders, co. engr. Noted Apr. 19.

S. D., Madison—(Official)—Ditch—Until June 7 by Comrs. Lake and Moody Cos.; advertised in this issue. Noted Jan. 25.

Mo., Cape Girardeau—(Official)—Bank Protection Work—Until June 1 by Bd. Supervs. Little River D.D., 410 Himmelberger-Harrison Bldg., under Contracts., 30-A, 30-C, 30-D and 30-E; advertised in this issue.

Ark., Jonesboro—Excavation—See "Streets and Roads."

Ark., Lonoke—(Official)—Drainage Work—Until June 14 by T. M. Fletcher, chn. comrs., Bayou Meto D.D. No. 1; advertised in this issue.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Del., Wilmington** — (Official) — Dredging — County let contract dredging near Port Penn and Augustine Piers, St. Georges, to Delaware Dredging Co., Real Estate Trust Bldg., Phila.

★**Ind., LaFayette**—Drainage—County let contract drainage work to J. Parlow, LaFayette.

★**Mich., Dowagiac**—Drainage—Drainage Comrs. let contracts Dowagiac River Drain as follows: I. F. Elheney, Bangor, 4080 rods at $9 65 per rod; J. Athey, Decatur, 1 mi. at $7 per rod; E. Kinney, Decatur, 1 mi. at $5 per rod. Total cost, $66,732.

★**Ill., Des Plaines**—Drainage—County let contract 16,800 ft. 4-in. to 12-in. tile to J. Cashin, Ramsey.

★**Ill., Quincy**—(Official)—Pumping Plant—Indian Grave D. D. let contract drainage pumping plant, consisting of 1 brick building on concrete foundation (with residence in second story), to B. Layton, Muscatine, Ia., cost, plus %. Bidder was also low on electric and oil-driven motors, price being $79,700 and $109,000 respectively. Noted Apr. 5.

★**Ia., Algona** — (Official) — Drainage — Bd. Supervs. let contract open work for D.D. No. 133 to Thomas & Sweet, Bancroft, 6.98c. per cu.yd. Noted May 3.

★**Ia., Carroll**—Drainage—County let contract D. D. No. 82 to Cement Products Co., Turin.

★**Ia., Marion**—Drainage—County let contract D. D. No. 1 to Hawkeye Constr. Co., Webster City.

★**Minn., Ivanhoe**—(Official)—Ditch—County let contract Judicial Ditch No. 30 to Kohler Constr. Co., Frazee, open work, $25,559; V. Larson, Lake Benton, tile, $18,300. Noted Apr. 26.

★**Minn., Jackson**—County let contract Judicial Ditch No. 64 to L. Hanson, Lakefield, $29,000.

★**Minn., Jackson**—Ditch—County let contract Judicial Ditch No. 66 to H. Dean, Alpha, $10,700.

★**Ark., Jonesboro**—Ditches—Bd. Comrs., D.D. No. 14, let contract 10 mi. ditches to C. W. Beeker, Malden, Mo., $19,800.

★**Tex., Pecos**—Irrigation—Reeves County Irrigation Dist. let contract irrigation works to A. D. Jamison.

★**Wash., Pomeroy**—Excavation—See "Streets and Roads."

★**Cal., Paradise**—Canal, Etc.—(Official)— Bd. Dir., Paradise Irrigation Dist. let contract canal and wood pipe system to W. A. Kraner, 1035 Bush St., San Francisco, $147,476. Dist. will build dam on cost plus 10% at cost of about $85,000. Noted Apr. 19.

INDUSTRIAL WORKS

Proposed Work

Mass., Malden—Eastern Smelting & Refining Co. prepared plans plant. About $100,000.

R. I., Pawtucket—C. S. Skinner Co. plans 4-story, 125 x 250-ft. plant. About $100,000.

Conn., Bridgeport—C. D. Davis, 309 Washington Ave., plans 5-story, 60 x 124-ft. plant. About $200,000.

N. Y., Jamaica—Armour & Co., Union Stock Yards, Chicago, prepared plans 3-story brick warehouse on Rockton St. About $90,000.

N. Y., New York—T. Monahan is having plans prepared by G. M. McCabe, archt., 96 5th Ave., 4-story garage on Marginal St. About $250,000.

Pa., Allentown—Allentown Standard Mfg. Co. plans plant to manufacture copper, tin and metal tubes. About $75,000.

Pa., Phila.—Curtis Publishing Co., 6th and Walnut St., has had plans prepared by A. W. Brunner, archt., 101 Park Ave., New York for 10-story, 260 x 386-ft. publishing house.

Pa., Phila.—De Long Hook and Eye Co., Broad and Wallace Sts., plans addition. About $200,000.

Pa., Phila.—General Scientific Equipment Co., 2951 North 27th St., has had plans prepared by A. Alcantarn, archt., 2962 North Bailey Bldg., for 3-story, 110 x 124-ft. machine shop.

Pa., Pottstown—Steel Plate Products Co. plans plant in western section of city. About $50,000.

Pa., York—American Chain Co., Inc., 358 North George St., will construct brick addition to form an "L," facing Edgar and Prospect St.

Md., Baltimore—Baltimore Dry Dock and Shipbuilding Co., 1720 Thames St., plans addition to plant. About $3,000,000.

Md., Baltimore—Seaboard Packing Co. soon lets contract 4-story, 110 x 164-ft. plant. C. B. Comstock, 110 West 40th St., New York archt.

Va., Lynchburg—Jobbers Overall Mfg. Co., 1701 12th St., plans 2-story, 63 x 183-ft. factory with 60 x 63-ft. wing. About $50,000. Heard, Cardwell & Craighead, archts, Peoples Natl. Bank Bldg., receives bids in about 30 days.

W. Va., Bridgeport—Bridgeport Window Glass Co., Goff Bldg., Clarksburg, having plans prepared for 3 factory buildings, 1-story, 144 x 275-ft., 125 x 175-ft. and 60 x 200-ft. About $85,000. A. L. Talbot, mgr.

Ala., Mobile—Barrett Shipbuilding Co. plans plant. About $300,000. G. S. Leatherbury, pres.

Miss., Jackson—R. H. Green plans grain elevator, cold-storage plant and feed mill. About $50,000.

Ky., Paducah—See "Buildings."

O., Cincinnati—Crown Overall Co., 3rd and Plum St., plans, 4-story, 182 x 185-ft. factory. About $200,000. Zettal & Rapp, archts., Johnson Bldg., soon receives bids. W. G. Franz, Union Trust Bldg., engr.

O., Cincinnati—Laidlaw Works of Worthington Pump and Machinery Corp. is having plans prepared for a 2-story pattern shop. About $55,000. B. Baldwin, 73 Perin Bldg., archt.

O., Columbus—Columbus Climax Rubber Co., Citizens Bank Bldg. (temporary office), recently incorporated with $200,000 capital stock, plans several factory buildings. I. S. Hoffman, pres.

O., Elmwood Place—Laidlaw Works of Worthington Pump & Machinery Corp., 1504 1st Natl. Bank Bldg., Cincinnati, has had plans prepared by B. Baldwin, archt. and engr., 73 Perin Bldg., Cincinnati, for 2-story, pattern shop. About $55,000.

O., Portsmouth—Portsmouth Refactories Co. plans factory. About $75,000. B. H. Brook, mgr.

Mich., Detroit—Flander Co., 223 Hammond Bldg., had plans prepared by Stahl & Swinney, archts., 117 West Fort St., for manufacturing plant including 2-story, 90 x 500-ft. plant with 3 wings, 3-story, 75 x 90-ft., and other three to be 2-story, 75 x 90-ft.

Ill., Chicago—International Airship Corp., 36 South State St., plans 1- and 2-story, 100 x 600-ft. factory and office, Miller St. and Indiana Ave. W. H. Pruyn, Jr., 122 South Michigan Ave., soon receives bids.

Ill., Chicago—Melba Mfg. Co., 4237 Indiana Ave., plans 3-story addition to factory, also new power house. R. C. Pierce, archt., 10 South La Salle St., soon receives bids.

Ill., Chicago—Old Reliable Motor Truck Co., 3921 South Michigan Ave., will construct 2-story 100 x 160-ft. addition. About $90,000.

Ill., Chicago—Wahl Adding Machine Co., 202 East Ohio St., plans 3-story, 124 x 168-ft. factory. About $95,000. S. C. Roberts, pres.

Wis., Milwaukee—Evinrude Motor Co., 278 Walker St., receiving bids about June 1 for 300 x 300-ft. main shop and 80 x 200-ft. foundry 27th and Lake Sts., North Milwaukee. About $250,000. P. M. Tallon, secy. Federal Engr. Co., Stephenson Bldg., engr.

Wis., Milwaukee—R. Gunz Co., Muskego Ave., plans factory at Muskego Ave. and Canal St. About $50,000.

Wis., Milwaukee—See "Reinforced Concrete."

Ia., Sioux City—Sioux City Service Co. plans improvements, including power plant and sub-power stations. About $750,000. E. L. Kirk, 3rd and Water Sts., gen. mgr.

Tex., San Antonio—See "Reinforced Concrete."

Colo., Denver—Linde Air Products Co., 42nd St., Bldg., New York, purchased site at South Broadway and Exposition Sts., and plans factory. About $100,000.

Wash., Seattle—Pacific Oil Mills Co., 1816 4th St., leased 7-acre tract of land from Comrs. on which to construct factory building to cost about $250,000. County will also build dock on site to lease to company. H. Meyer, 534 1st Ave., S., secy. and genl. mgr.

Cal., Orange—Santiago Orange Growers Assn. had plans prepared for 143 x 170-ft. precooling and packing plant, West Palm St. About $125,000.

Cal., Torrance—Pacific Electric Co. plans new shops. About $1,138,000. J. McMillan, Pacific Electric Bldg., Los Angeles, gen. mgr.

Bids Desired

N. Y., Central Islip—(Official)—Laundry—Until May 25 by State Hospital Comn., Capitol, Albany, extension to laundry and equipment at Central Islip State Hospital; advertised in this issue.

Prices and Contracts Awarded

(★Indicates award of contract)

★**N. H., Somersworth**—Great Falls Mfg. Co., 804 Exchange Bldg., Boston, let contract 3-story, 50 x 150-ft. addition to bleachery to Clark & Lee Co., 201 Devonshire St., Boston.

★**Mass., Gardner**—Central Oil & Gas Co., 205 School St., let contract 3-story plant to J. O. Safford & Co., Inc., 9 Doane St., Boston. Noted Apr. 19.

★**Mass., New Bedford**—Penrod Mills let contract mill to F. H. Smith, 120 Bway, New York City.

★**Mass., New Bedford**—Taunton—New Bedford Copper Co., North Front St., let contract machine shop and rolling mill to J. W. Bishop & Co., 109 Foster St., Worcester, $200,000. Noted Apr. 26.

★**N. Y., Brooklyn**—Cronk Works of Natl. Lead Co., 135 Marshall St., let contract Factory No. 3 to W. Kennedy Constr. Co., 215 Montague St., $90,000. Noted May 10.

★**N. Y., Brooklyn**—New York Municipal R.R., 85 Clinton St., let contract electric sub-station to A. Pasquini, 30 East 42nd St., New York, $50,000.

★**N. Y., Buffalo**—New York Central R.R. let contract 2 engine houses to J. W. Cowper Co., Inc., Fidelity Bldg., $300,000.

★**N. Y., New York**—City let contract elevator storehouse on Blackwell's Island to A. Winternitz, 103 Park Ave., $390,864.

★**N. Y., Schenectady**—General Electric Co. let contract foundry to S. Austin & Sons Co., 14,230 Euclid Ave., Cleveland, $400,000.

★**N. J., Camden**—J. Campbell Soup Co. let contract factory to Barclay & White Co., 1713 Sansome St., Phila., $75,000. Noted Apr. 12.

★**N. J., Newark**—Pittsburgh Plate Glass Co., Pittsburgh, let contract 1-story branch plant, Elizabeth Ave. and Peddie St., to Levering & Garrigues Co., 552 West 23d St., New York, $60,000.

Industrial Works (Continued)

★**N. J., Plainfield**—Pond Machine Tool Co. of Niles-Bement-Pond Co., let contract addition to H. E. Baton, 12th and Sansom St., Phila., $150,000.

★**Pa., Phila.**—F. Weber & Co., 1125 Chestnut St., let contract factory to Evans Constr. Co., 9 South 18th St., $50,000. Noted Apr. 19.

★**Pa., Scranton**—Reiling & Schoen, Petersburg Silk Mill, 1000 James St., let contract addition to L. Stipp, Union Bank Bldg., Providence, $60,000.

★**W. Va., South Charleston**—See "Reinforced Concrete."

★**Ga., Tifton**—Tifton Packing Co. let contract plant to R. V. Labarre, Bisbee Bldg., Jacksonville, $160,000.

★**Ky., Louisville**—Standard Oil Co., 424 West Bloom St., let contract oil refinery to Fruin Colnon Constr. Co., LaClede Bldg., St. Louis, $1,000,000.

★**Ind., Indianapolis**—See "Reinforced Concrete."

★**Mich., Detroit**—See "Reinforced Concrete."

★**Mich., Sandusky**—Borden Condensed Milk Co. let contract plant to Covel Constr. Co., Ionia, about $70,000.

★**Ill., Chicago**—R. R. Donnelley & Sons Co., 731 Plymouth Ct., let contract printing plant, 2113-37 Calumet Ave., to Leonard Constr. Co., 332 South Michigan St., $200,000.

★**Ill., Chicago**—W. D. Gibson & Co., Huron and Kingsbury Sts., let contract rein.-con. and stone addition to C. Rathmussen, 154 West Randolph St., $150,000.

★**Wis., Milwaukee**—See "Reinforced Concrete."

★**Wis., Racine**—Hamilton & Beach Co. let contract addition, brick, to A. H. Harens, 822 14th St.

★**Wis., Sheboygan**—American Chair Co. let contract addition to factory to C. Zelle & Sons, $60,000.

★**Neb., Omaha**—See "Reinforced Concrete."

★**Ont., Peterborough**—Quaker Oats Co., Ry. Exchange Bldg., Chicago, let contract new plant to Canadian Leonard Constr. Co., Barrie Bldg., about $500,000.

★**Ont., Toronto**—H. Rotenberg, 77 Spadina Rd., let contract warehouse to Raymond Constr. Co., Lumsden Bldg., about $60,000.

BUILDINGS

Proposed Work

N. H., Durham—Dormitory, etc.—(Official)—Trustees New Hampshire College, will receive bids about June 1 for brick dormitory and commons building. About $100,000. E. T. Huddleston, Dept. Drawing, c/o college, archt. Noted May 3.

Mass., Cambridge—Theatre, Store and Office—Olympia Theatre Co., 3 Tremont Row, Boston, plans 3-story. About $400,000. W. L. Mowll, archt., 185 Devonshire St., Boston, preparing plans.

Mass., Lexington—High School—Bd. Educ. plans. About $175,000. S. Swan, town clk. W. Brown, archt., 45 Milk St., Boston, preparing plans.

Mass., Lynn—Hospital—Hospital Corp. had plans prepared by C. V. Burgess, archt., Security Trust Bldg., 3-story, brick. About $80,000.

Mass., Norwood—School—Bd. Educ. plans, 3-story, 97 x 210-ft., 88 x 92-ft. and 92 x 136-ft. G. H. Smith, chm. com. J. H. Aitchie, archt., 8 Beacon St., Boston, preparing plans.

Mass., Pittsfield—Lodge and Office—L. G. Lloyd, 395 North St., soon lets contract, 2-story, 60 x 100-ft. About $50,000. P. F. McLaughlin, 24 North St., archt.

Conn., Waterbury—High School—Bd. Educ. soon receives bids, 3-story, 200 x 200-ft., brick and steel, Gorve and Pine Sts. L. A. Walsh, archt., prepared plans.

N. Y., Brooklyn—Theatre—J. H. Ward, c/o A. G. Carlson, archt., 226 Henry St., having plans prepared, 1-story. About $50,000.

N. Y., Buffalo—School—Dept. Pub. Wks. soon lets contract P. S. No. 63, 2½-story, 105 x 170-ft. brick, stone and steel. About $180,000. H. Beck, city archt.

N. Y., New York—School—Manhattan Trade School for Girls, 209 East 23rd St., has plans prepared by C. B. J. Snyder, archt., for 10-story, brick, limestone and terra cotta school, Lexington Ave. and 22nd St.

N. J., Florence—Church—Florence Baptist Congregation plans, about $50,000.

N. J., Harrison—School—Bd. Educ. plans, about $250,000.

N. J., Princeton—School—Bd. Educ. plans, 2-story. About $50,000. J. N. Anderson, Cedar Grove, principal. R. Schiman, archt., 932 Lambert St., Trenton, preparing plans.

Pa., Clarks Summit—(Official)—Almshouse—Scranton Poor Dist., 624 Connell Bldg., Scranton, receives bids in about 6 weeks, 2-story addition. About $400,000. D. H. Morgan, Connell Bldg., Scranton, archt. Noted May 3.

Pa., Easton—**High School**—Easton School Bd. considering plans for addition to high school. About $300,000.

Pa., McKees Rocks—Schools—Bd. Educ. plans 2 grade schools. About $150,000. A. B. Rath, pres. J. H. Phillips, archt., 604 Chartiers St., preparing plans.

Pa., Phila.—(Official)—Club—F. E. Hahn, archt., 1112-1114 Chestnut St., receiving bids about June 20, for American Federation of Musicians, Local No. 77, 10 South 18th St. About $75,000. Noted May 3.

Pa., Shamokin—(Official)—Theater—W. H. Lee, archt., Dime Bank Bldg., receiving bids about June 1 for 1-story, 75 x 125-ft. for Chamberlain Amusement Co., 14-16 West Independence St. About $90,000. Noted May 3.

Md., Baltimore—(Official)—School, Assembly Hall and Gymnasium—Smith & May, archts., 1133 Calvert Bldg., will receive bids in about 2 weeks for Park School. About $75,000. Noted May 3.

Wash., D. C.—Bank—Home Savings Bank receiving bids about June 1, 6-story, 35 x 70-ft. Cost, $100,000. C. Waggman, 1211 Conn. Ave., archt.

W. Va., Parkersburg—School—City election in fall to vote on $175,000 bonds to build school. G. Heaton, clk. F. L. Packard, 1212 New Hayden Bldg., Columbus, archt.

Ky., Lexington—Church—Broadway Christian Congregation will rebuild. About $125,000.

Ky., Paducah—Depot, etc.—Illinois Central R.R. plans depot and will improve shops. About $100,000. A. S. Baldwin, 135 East 11th Pl., Chicago, ch. engr.

O., Cuyahoga Falls—High School—City voted $50,000 bonds to build addition to high school. Noted May 10.

O., Dayton—Auditorium—Dayton Pythian Castle, South Main St., soon receives bids addition to auditorium. About $175,000. Pretzinger & Musselman, archts., Reibold Bldg., completed plans.

O., McCutchenville—High School—Bd. Educ. soon receives bids 2-story, 100 x 130-ft. About $75,000. J. L. Bare, clk. Pretzinger & Musselman, 1126 Reibold Bldg., Dayton, archts.

O., Massillon—Nurses' Home—Massillon City Hospital plans, 3-story, 33 x 87-ft. About $50,000. E. Heerman, archt., 405 Martin Bldg., Canton, soon receives bids.

O., Massillon—Bank—Union Natl. Bank, 75 Erie St., plans 1- and 2-story. About $65,000. J. H. Hunt, pres. C. Wilhelm, archt., Albright Bldg., Massillon, soon receives bids.

O., Youngstown—Office—Brier Hill Steel Co., Stambaugh Bldg., having plans prepared by J. L. Decker, archt., Stambaugh Bldg., 4-story, brick, West Federal St. About $250,000. Noted May 3.

Ind., Cambridge City—High School—Bd. School Trustees and C. O Williams, co supt., selected site for high school. About $75,000.

Ind., East Chicago—High School—East Chicago High School soon receives bids 3-story, 71½ x 176½-ft. About $100,000. J. T. Hutton & Son, Hammond Bldg., Hammond, archts.

Ind., Ft. Wayne—Auditorium—City plans, on Lewis and Clinton St. About $225,000. C. Weatherhogg, archt., Hamilton Natl. Bank Bldg., preparing plans.

Ind., Ft. Wayne—Y. M. C. A. plans 7-story, 150 x 150-ft. building. About $300,000. A. H. Perfect, Lincoln Life Bldg., pres. Shattuck & Hussey, 19 South La Salle St., Chicago, archts.

Ind., Richmond—High School—Bd. Educ. had plans prepared by R. P. Daggett & Co., archts., 956 Lemke Annex, Indianapolis, for a 2-story addition. About $150,000.

Ind., South Bend—Hotel—Marquette Hotel Co. plans, 12-story, 66 x 165-ft. About $375,000. Dibelka, Flaks & Minchin, archts., 130 North 5th Ave., Chicago, prepared plans.

Ill., Aledo—Bank and Office—Mercer County Banking Assn. soon lets contract, 3-story, 50 x 100-ft. About $75,000. J. Knittel Co., archts.

Ill., Chicago—Theatre—E. Browarsky soon lets contract, 3-story, 157 x 266-ft. About $300,000. H. L. Newhouse, 4630 Prairie Ave., archt.

Ill., Kewanee—Hospital—Kewanee Public Hospital Assn., c/o W. F. Jones, 309 Tremont St., had plans prepared by J. G. Beadle, archt., Galesburg, 2-story. About $50,000.

Ill., Maywood—Temple—Maywood Temple Assn. had plans prepared by E. E. Roberts, archt., for temple at 5th Ave. and South 2nd St. About $80,000.

Ia., Ames—Armory—Finance Com. of State Bd. Educ. made surveys for armory for Iowa State College. About $125,000.

Ia., College Springs—Schools—Consolidated Dist. having plans prepared by Trunk & Gordon, archts., Donnell Ct., St. Joseph, Mo., 2-story, 73 x 143-ft., brick, stone and rein.-con. high and grade school. About $65,000.

Ia., Columbus Junction—School—City will vote on May 28 on $90,000 bonds to build schools.

Ia., Corwith—School—Bd. Educ. plans, 2-story. Cost, $80,000 to $90,000. W. C. Olke, secy. Proudfoot, Bird & Rawson, archts., 810 Hubbell Bldg., Des Moines, prepared plans. Noted May 3.

Ia., Iowa City—Armory—Bd. Educ. having plans prepared by Proudfoot, Bird & Rawson, archts., 810 Hubbell Bldg., Des Moines. About $125,000.

Ia., Mason City—(Official)—School—City voted $100,000 bonds to build schools. R. L. James, secy, School Bd. Noted May 3.

La., New Orleans—Court House—Winn Parish had plans prepared by W. L. Stevens, archt., Liverpool, London & Globe Annex. Cost, $75,000.

Ia., Shenandoah—High and Grade School—Bd. Educ. having plans prepared by Trunck & Gordon, archts., Donnell Court Bldg., St. Joseph, Mo., 2-story, 99 x 150-ft. brick and stone. About $115,000.

Minn., Lakefield—High School—Bd. Educ. School Dist. No. 3, receiving bids about May 25, 2-story, 120 x 120-ft. About $75,000. H. A. Hayden, clk. K. T. Snyder, 1133 Plymouth Bldg., Minneapolis, archt.

Minn., Minneapolis—Clubhouse—Gymat Doled Club, 11 Western Ave., plans. About $75,000. S. Gottlieb, 1027 James Ave., N., pres.

Minn., Rochester—Schools—Bd. Educ. plans election to vote on $128,000 bonds to build schools. E. Bratager, clk.

Minn., Warroad—City voted $50,000 bonds to build schools. T. L. Jones, clk.

Kan., Augusta—High School—City voted $50,000 bonds for new high school.

Kan., Wichita—Hotel—Travelers Hotel Bldg. Co., plans 12-story, brick, terra cotta and rein. con. About $500,000. H. L. Lassen, 345 Belmont Ave., pres. Richards, McCarty & Bulford, Columbus, O., archts.

Neb., Columbus—Hospital—Sisters of St. Francis had plans prepared for addition to St. Mary's Hospital. About $50,000.

Neb., Lincoln—Hotel—Crown Hotel Co., c/o F. D. Eager, Majestic Theater Bldg., 15th and O Sts., is having plans prepared by J. W. Salmon, archt., Orpheum Theater Bldg., 12-story.

Neb., Lincoln—Bank and Office—Nebraska Central Bldg. and Loan Assn is having plans prepared by Fiske & Meginnis, archts., 529 Bankers' Life Bldg., for addition. About $120,000.

Neb., Omaha—Theater and Store—A. H. Blank, Des Moines, plans, 12-story, 132 x 132-ft. Cost, $250,000.

Neb., Omaha—Home—Alpha Camp, No. 1, Woodmen of the World, plans. About $50,000.

Neb., Scottsbluff—School—Bd. Educ. has had plans prepared by Berlinghoff & Davis, archts., 416 Security Mutual Life Bldg., Lincoln, 2-story, 90 x 120-ft. About $100,000. J. F. Kennedy, secy.

N. D., Lamoure—High School—Bd. Educ. having plans prepared by W. H. Kurke, archt., Fargo. About $60,000.

Mont., Butte—See "Reinforced Concrete."

Mont., Deer Lodge—High School—City rejected bids as too high. About $60,000 available for work. Noted Apr. 12.

Mont., Lewiston—High School—County voted $90,000 bonds to build high school.

Mo., Joplin—Y. M. C. A. plans building. About $250,000.

Mo., Kansas City—Armory—City plans election to vote on $300,000 bonds to build armory. C. B. Trimmer, clk.

Mo., Kansas City—Schools—Bd. Educ. plans election June 2 to vote on $2,000,000 bonds to improve schools.

Mo., Maryville—School—Bd. Educ. soon lets contract, 3-story. About $55,000. Eckel & Aldrich, 1102 Corby Forsee Bldg., St. Joseph, archts.

Mo., St. Joseph—Hotel—J. Gieger, M. D., plans 8-story addition. About $100,000. W. Hoschess, archt., Tootle-Lemon Bank Bldg., preparing plans.

Mo., St. Louis—Theatre and Office—L. Cella, 705 Olive St., soon lets contract 80 x 160-ft. addition. About $130,000. C. H. Deitering, 705 Olive St., archt.

Mo., St. Louis—Bank—American Trust Co., Bway. and Locust St., plans at 714-18 Locust St., 3-story. About $225,000.

Ark., Ft. Smith—Church—Methodist Episcopal Congregation having plans prepared by J. Gaisford, archt., Goodwin Institute Bldg., Memphis, Tenn. G. W. Green, chn. bldg. com.

Tex., Calvert—School—School Dist. voted $60,000 bonds to build schools.

Tex., Dallas—Office—Southern Life Insurance Co., having plans prepared by Long & Witchell, archts., Southwest Life Bldg., for 10-story, 75 x 100-ft. addition. About $200,000.

Tex., El Paso—Station—St. Louis & San Francisco Ry. and Atchison, Topeka & Santa Fe Ry. completed plans and will soon let contract for Union Station. About $400,000. F. G. Jonah, St. Louis, ch. engr. of former company.

Tex., El Paso—Y. W. C. A. retained Lang & Mitchell, archts., to prepare plans building. About $75,000.

Tex., Ft. Worth—Hotel—Westbrook Hotel soon lets contract. About $200,000. L. W. Huckins, mgr. Noted Apr. 5.

Tex., Houston—Church—Trinity Congregation had plans prepared by W. W. Watkin, archt., Carolina Blvd., at Colman Ave. and Main St.

Tex., Sour Lake—School—Bd. Educ. completed plans and will soon let contract. About $75,000. Noted Apr. 5.

Buildings (Continued)

Okla., Ardmore—Hotel—Ardmore Hotel Co. soon lets contract, 6-story, 100 x 100-ft. H. L. Sturm, secy. Wight & Wight, 401 First Natl. Bank Bldg., Kansas City, Mo., archts.

Okla., Bartlesville—Lodge and Office—Masonic Bodies, c/o H. Weber, M.D., having plans prepared by J. H. Felt & Co., archts., 800 Grand Ave., Temple, Kansas City, Mo., 8-story, 100 x 140-ft. About $275,000.

Okla., Enid—High School—City defeated $50,000 bonds to build high school. Noted Apr. 26.

Okla., Miami—Hotel—Miami Hotel Co. plans, 7-story, 100 x 120-ft. A. J. Bellis, archts., 615 Orear-Leslie Bldg., Kansas City, Mo., preparing plans.

Okla., Muskogee—(Official)—School—State Bd. Pub. Affairs, Oklahoma, receiving bids in June for addition to School for Blind. About $50,000. C. W. Dawson, Iowa Bldg., archt. Noted May 3.

Okla., Nowata—School—Bd. Educ. plans. About $50,000. D. M. Lawson, secy. W. H. Sayler, archt., 606 Gamble Bldg., Kansas City, Mo., preparing plans.

Okla., Ponca City—Hotel—Ponca City Hotel Co. plans, brick and rein.-con., about $150,000. Layton & Smith, 701 Majestic Bldg., Oklahoma, archts.

Okla., Sapulpa—High School—Bd. Educ. plans, 3-story, 115 x 170-ft. About $200,000. J. W. Young, secy. C. A. Popkin, archt., preparing plans. Noted Apr. 19.

Okla., Tulsa—Y. W. C. A. receiving bids about June 1, 4-story, brick, stone, terra cotta and concrete building. About $150,000. C. K. Birdsall, 1002 Commerce Bldg., Kansas City, Mo., archt. H. A. Noble, 1118 McGee St., Kansas City, Mo., struct. engr.

Colo., Denver—Club—Denver Athletic Club, 1325 Glenarm Pl., plans, 12-story. About $500,000.

Colo., Rocky Ford—(Official)—City voted $100,000 bonds to build schools. R. W. Boney, secy., School Bd. Noted Apr. 19.

Colo., Trinidad—(Official)—School—Local School Dist. defeated $100,000 bonds to build school. Project suspended. F. Jones, secy. Noted Apr. 26.

Utah, Ogden—School—City voted $200,000 bonds to build school. Noted Apr. 19.

Ariz., Tucson—School—Bd. Educ. having plans prepared by H. O. Jaasted, archt., 96 Stone Ave., 2-story, brick, on Safford School site. About $100,000.

Ore., Enterprise—School—Bd. Educ. soon receives bids. About $60,000. Tourtelotte & Hummel, archts., Rothchild Bldg., Portland, prepared plans.

Ore., Portland—School—Bd. Educ. soon receives bids addition to Franklin High School, about $130,000; also to Woodstock School, about $40,000. F. A. Naramore, Court House, supt. school properties.

Cal., Coalinga—(Official)—School—A. T. Borst, secy., Bd. Trustees, receiving bid about June 5 for intermediate school, 3 buildings. About $100,000. Noted Apr. 26.

Cal., Oakland—Hospital, Etc.—See "Structural Steel."

Cal., Pasadena—Hotel—H. Fisher had plans prepared by E. Grey, archt., 811 Wright and Callender Bldg., Los Angeles, 3-story. About $50,000.

Cal., Richmond—Terminals—See "Miscellaneous."

Cal., San Francisco—Schools—Bd. Educ. plans to hold election to vote on $3,500,000 bonds to build new schools and make improvements. G. Gallagher, pres.

Ont., Toronto—Schools—City plans election to vote on $642,000 bonds to build schools.

Alta., Calgary—School—Provincial Government plans Normal School. J. R. Boyle, Edmonton, min. of educ.

Bids Desired

Mass., Gardner—(Official)—School—Until May 21 by F. T. Reynolds, supt. schools, school on Coleman St. About $60,000. F. I. Cooper, corp., 33 Cornhill, Boston, archts. Noted May 3.

N. J., Hoboken—School—Until May 29 by Bd. Educ., for P. S. No. 3, Adams and 5th St. J. F. Fagan, 95 River St., archt.

N. J., Paterson—School—Until May 24 by H. B. Crosby, archt., 1st Natl. Bank Bldg., School No. 6, Grand Ave. and 18th St., 4-story, 132 x 200-ft., brick, concrete and steel. About $275,000. Noted Apr. 26.

Ga., Savannah—School—Until May 21 by Bd. Educ. of Savannah and Chatham Cos. Lavy & Ciarke, Germania Bldg., archts.

Fla., Jacksonville—School—(Official)—Until June 9 by Bd. Pub. Instruction, Room 203, Court House, brick, 5th and Hubbard St. R. A. Benjamin, Bisbee Bldg., archt.

O., Canton—(Official)—Grade School—Until June 6 by W. C. Lane, clk. About $100,000. C. C. & A. L. Thayer, Commercial Bldg., New Castle, Pa., archts. Noted May 3.

O., Celina—(Official)—Parochial School—Until May 21 by Trustees, of Immaculate Conception Congregation, for 2-story, 67 x 135-ft. About $60,000. A. deCurtins, 502 Opera House Blk., Lima, archt. Noted May 3.

Ind., Lafayette—Armory—Until May 24 by Purdue University, brick, concrete and steel. About $175,000. A. Dufty, Smith Hall, Purdue University, supt. bldg.

Mich., Ironwood—School—Until May 21 by Bd. Educ., 3-story, 70 x 150-ft. About $90,000. G. N. Sleight, secy. C. J. Anderson, Wilner Bldg., Green Bay, Wis., archt.

Ill., Kewanee—Hospital—Until May 21 by St. Francis Hospital, 515 East Elliott St., 4-story, 40 x 50-ft. addition. About $60,000. H. B. Dox, 317 Woolner Bldg., Peoria, archt.

Wis., Rice Lake—High School—Until May 24 by Bd. Educ. 2-story, 60 x 100-ft., brick, concrete and hollow tile. About $50,000. E. J. Hancock, Eau Claire, archt.

Kan., Ness City—Court House—Until June 5 by Co. Comrs., 2-story, brick, stone and concrete. About $65,000. F. B. Norris, clk.

N. D., Drake—(Official)—High School—Until June 4 by School Bd. About $65,000. W. D. Gillespie, 64½ Bway., Fargo, archt. Noted Apr. 26.

Prices and Contracts Awarded

(★Indicates award of contract)

★**N. H., Exeter**—Gymnasium and Swimming Pool—Phillips Exeter Academy let contract to Holt-Fairchild Co., Old South Bldg., Boston, $150,000.

★**Mass., Boston**—Theatre, store and Bowling Alley—Codman Square Theatre let contract, 2-story, 70 x 230-ft., to Haynes Constr. Co., 40 Court St., $175,000.

★**Mass., Chicopee**—High School—Bd. Educ. let contract to G. T. Kelly, 22 John St., Yonkers, N. Y., about $325,800. Noted Feb. 8.

★**Mass., Springfield**—School—Bd. Educ. let contract, 2-story, 160 x 170-ft. to W. A. Newton & Co., 150 Birnie Ave., $225,000.

Mass., Swampscott—School—Bd. Educ. received low bid, 2-story, brick, from C. S. Cunningham & Sons Constr. Co., 7 Water St., Boston, $62,889.

★**Conn., Fairfield**—School—Bd. Educ. let contract school in Southport Dist. to J. D'Agostine, Bridgeport, $50,000. Noted Apr. 12.

★**Conn., Stratford**—School—Town let contract to Churchill Co., 143 Harrison Ave., Boston, Mass., $50,000.

★**Conn., Waterbury**—High School—Bd. Educ. let contract 3-story addition to Norcross Bros. Co., 10 East Worcester St., Worcester, Mass., about $324,000.

★**N. Y., Brooklyn**—Theater—Brevoort Holding Co., 1123 Cary St., will build 2-story, 120 x 172-ft. by day labor. About $225,000.

★**N. Y., Great Neck**—Bathhouse—See "Miscellaneous."

★**N. Y., New York**—Theater—E. F. Rush, Times Bldg., let contract, brick and steel, to Jardin Co., 507 5th Ave., $75,000.

N. J., Jersey City—School—Bd. Educ. received low bids school on 8th St. from A. W. Cronin Sons, Jersey City, $128,897.

★**N. J., Lodi**—School—Boro. let contract to Ferber Constr. Co., 16 Johnson Ave., Hackensack, $75,000.

★**Wash., D. C.**—Bank and Office—Commercial Natl. Bank let contract, 9-story, to F. L. Wagner, 1413 H St., $400,000. Noted Apr. 12.

★**Va., Bristol**—College—King's College let contract 1- and 3-story to P. J. Pettyjohn & Co., 8th St., Lynchburg, $250,000.

★**O., Cleveland**—Bank—Cleveland Trust Co. let contract, East 40th St. and St. Clair Ave., to J. E. Christian Constr. Co., 1119 Superior Ave. About $50,000.

★**O., Cleveland**—School and Church—East End Baptist Congregation let contract additions and alterations to school and church, Euclid Ave. and East 92nd St., to Paul Bros. Constr. Co., 615 Citizens Bldg., $50,000.

★**O., Findlay**—Exchange—Central Telephone Co. let contract to Alge Bros., $100,000.

★**O., Portsmouth**—Bank and Store—Security Savings Bank & Trust Co. let contract, 2-story, to Cullen & Vaughn, 8 East Broad St., Columbus, $60,000.

★**O., Youngstown**—(Haselton)—School—St. Elizabeth Congregation let contract, on Haseltine Ave., to J. C. Dulovich, 126 South Pearl St., $80,000.

★**Ill., Urbana**—Library—Urbana Library Bd. let contract, Race and Elm Sts., to A. W. Stoolman, 1001 South 3rd St., Champaign, $50,000.

Wis., Waukesha—High School—Bd. Educ. received low bid from J. P. Cullen, Janesville, $149,672. G. B. Harris and A. S. Futney, dirs. Noted Apr. 26.

★**Ia., Des Moines**—School—Bd. Educ. let contract, 2-story, brick, stone and concrete, to A. H. Newmann & Co., 518 Hubbell Bldg., $60,000. Noted Mar. 8.

★**Ia., Sioux City**—Mausoleum—Mt. Ca... Cementery Assn. let contract to An... Mausoleum Co. Cost, $100,000.

★**Ia., Sioux City**—Theatre—T. S. Martin ... tate, c/o J. E. Martin, 515 4th St., let con... to Ruschn & Sanborn, 502 United Bank ... Sioux City, $100,000.

★**Kan., Ellsworth**—High School—Bd. Educ. ... contract, 2-story, to J. T. Dalton, Junction ..., about $75,000.

Neb., Hastings—High School—Bd. Educ. ... ceived low bids from D. Richey, Hastings, ... $125,000.

★**Neb., Hastings**—High School—Bd. Educ. ... contract to Olson & Johnson, 515 North Hi... St., Missoula, Mont., $126,930. Noted Apr. 26.

★**Neb., Omaha**—Club—Omaha Athletic Club ... contract, 18-story, on Douglass St., to Selden Breck Constr. Co., 537-9 Keeline Bldg., $500,000. Noted Apr. 5.

★**N. D., Minot**—Hospital—St. Joseph's Hospital let contract to W. B. Knightly, Minot, $50,177.

★**Mont., Glacier**—Park—Hotel—Glacier Park Hotel Co., 1015 Railroad Bldg., St. Paul, let contract, 1-story, to E. G. Evensta Co., 301 North West Bldg., Minneapolis, $100,000.

★**Okla., Sapulpa**—Office—Clayton Estate ... let contract, 5-story, to Manhattan Constr. Co., Muskogee, about $110,000. Noted Apr. 5.

Ore., Salem—Receiving Ward—Oregon State Hospital for Insane received low bid from G. Isackson, 1013 East Irving St., Portland, $57,642. Noted May 3.

★**Cal., Los Angeles**—Store—See "Reinforced Concrete."

FEDERAL GOVERNMENT WORK

Proposed Work

Mass., Boston—Storehouse—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., preparing plans.

Pa., Ft. Mifflin—(Phila. P. O.)—Mine Storage Building—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., preparing plans.

Pa., Phila.—Caisson Gates—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., preparing plans, for dry docks at Phila. and Norfolk, Va. Navy Yards.

Pa., Phila.—Derricks, etc.—Bureau Yards and Docks (F. R. Harris, ch.) Navy Dept., Wash., preparing plans battery shed, derricks and cranes.

Del., Wilmington—Dredging—U. S. Engr. Office, Old Federal Bldg., Wilmington, rejected bids, Chester River.

Wash., D. C.—Building—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., preparing plans alterations to Buildings Nos. 108 and 44. About $73,000.

Wash., D. C.—Buildings—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., preparing plans 15 mine storage buildings for various points; also for magazine buildings for various ammunition depots.

Va., Norfolk—Caisson Gates—See "Phila., Pa."

Va., Norfolk—Traveling Cranes—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., preparing plans.

W. Va., Wheeling—Power House—U. S. Engr. Office received no bids, power house at Dam No. 24, Ohio River. Noted Apr. 5.

Fla., Pensacola—Storehouse and Magazines—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., prepared plans. Noted Apr. 26.

Tenn., Chattanooga—Post Office—J. A. Wetmore, superv. archt., Treas. Dept., Wash., rejected bids, extending.

O., Fremont—Post Office—J. A. Wetmore, superv. archt., Treas. Dept., Wash., rejected bids. Noted May 3.

Wis., Sparta—Post Office—J. A. Wetmore, superv. archt., Treas. Dept., Wash., rejected bids.

Cal., Vallejo—Dredge—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., rejected bids bucket dredge for Puget Sound Navy Yard.

Cal., Vallejo—Dredging—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., preparing plans, Mare Island Navy Yard.

Bids Desired

Mass., Watertown—Erecting Shop, etc.—Until May 23 by Watertown Arsenal, erecting shop, tunnel and coal conveying apparatus, addition to smith shop, projectile shop, power house and coal pocket.

Conn., Bridgeport—Post Office—Until June 11 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

N. Y., New York—Building—Until May 25 by Quartermaster, Eastern Dept., Governors Island, 6-set officers' quarters, brick, Governors Island; advertised in this issue.

N. Y., New York—(Official)—Dredging—Until June 11 by U. S. Engr. Office, Room 710, Army Bldg., 39 Whitehall St.; advertised in this issue.

Pa., State College—(Official)—Post Office—Until June 12 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.; advertised in this issue.

Federal Government Work (Continued)

Del., **Wilmington**—Dredging—Until June 4 by U. S. Engr. Office, Old Federal Bldg., Wilmington. Murderkill and Mispillion Rivers, Del.; advertised in this issue.

Md., **Cambridge**—Post Office—Until June 21 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Wash., **D. C.**—Paving—Until May 21 by O. P. Newman, dist. comr., Room 509, Dist. Bldg., paving various streets and avenues with sheet asphalt, asphalt and asphalt block.

Wash., **D. C.**—Pumping Outfit—Until May 22 by Bd. Awards, Dept. Agriculture. R. M. Reese, ch. clk.

Wash., **D. C.—Towers**—Until May 28 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., 3—600-ft. steel towers with concrete footings at U. S. Naval Radio Station, El Cayey, P. R.

Wash., **D. C.**—Turbo Generators, Etc.—Until May 21 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., furnishing and installing 500- and 750-kw. turbo generators and 2500-, 3125-, 3750- and 4375-kv.a. turbo-alterators for various navy yards. Noted May 3.

S. C., **Beaufort**—Post Office—Until June 20 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Fla., **Lakeland**—Post Office—Until May 23 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.; advertised in this issue.

Ala., **Montgomery**—Cement—Until June 16 by U. S. Engr. Office, Montgomery; advertised in this issue.

O., **Akron**—Post Office—Until June 18 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Ill., **Aledo**—Post Office—Until June 19 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.; advertised in this issue.

Ill., **Charleston**—Post Office—Until May 25 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Wis., **La Crosse**—Post Office—Until May 28 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Minn., **Ft. Snelling**—Roadwork—Until May 30 by Dept. Quartermaster, Federal Bldg., Chicago.

Minn., **Montevideo**—Post Office—Until June 19 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Kan., **Cherryvale**—Public Building—Until June 14 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Kan., **Girard**—Post Office—Until May 21 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Wyo., **Ft. Laramie**—Canal—Until June 6 by U. S. Rec. Ser., Ft. Laramie, 5.7-mi. main canal on Ft. Laramie Unit, North Platte Project, Nebraska-Wyoming, involving about 336,500 cu.yd. excavation, near Bridgeport-Guernsey line of Chicago, Burlington & Quincy R.R. near Torrington.

Ark., **Prescott**—Post Office—Until May 22 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Tex., **Denton**—Post Office—Until June 8 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Colo., **Denver**—Cement—Until May 23 by U. S. Rec. Ser., United States Tramway Bldg., Denver, furnishing 75,000 bbl. portland cement, f.o.b. cars at works of bidder. R. F. Walter, act. ch. of constr.

N. M., **Raton**—Post Office—Until June 13 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Wash., **Bremerton**—Cranes—Until May 28 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., for 4—15-ton traveling, revolving, hammerhead shipbuilding cranes at Puget Sound Navy Yard. Noted May 3.

Cal., **Golden Gate**—(Oakland P. O.)—Coast Guard Station—Until June 6 by U. S. Coast Guard, Custom House, San Francisco, constructing Coast Guard Station No. 324; advertised in this issue.

Cal., **Threerivers**—Bridge—Until June 14 by Dept. Interior, Natl. Park Ser., Wash., 1 cantilever truss timber bridge over Marble Fork of Kaweah River in Sequoia Natl. Park, Cal. B. Sweeney, secy.

Prices and Contracts Awarded

(★Indicates award of contract)

★Me., **Portland**—Steerage Barracks—J. A. Wetmore, superv. archt., Treas. Dept., Wash., let contract for quarantine station, to Mahoney Constr. Co., $63,918. Noted May 3.

★Conn., **New London**—Dredging—U. S. Engr. Office, let contract, Connecticut River, below Hartford, to Hartford & New York Transportation Co., 285 State St., Hartford, $16,000. Noted Apr. 5.

Pa., **Ft. Mifflin**—(Phila. P. O.)—Buildings—Bureau Yards and Docks, Navy Dept., received low bids 3 magazines and 1 shell house, also office building, Ammunition Depot at Ft. Mifflin, (a) work complete, (b) one magazine building, (c) shell house, (d) office, from McCloskey & Bahls, 1620 Thompson St., Phila., (a) $166,743, (b) $41,059, (c) $48,534; J. H. Wiese, City Natl. Bank Bldg., Omaha, (a) $171,737, (b) $38,135, (c) $44,800, (d) $11,592; F. W. Mark Constr. Co., Finance Bldg., Phila., (a) $195,000, (b) $43,800, (c) $57,000, (d) $8000. Noted Apr. 19.

Pa., **Ft. Mifflin**—(Phila. P. O.)—Fence—Bureau Yards and Docks, Navy Dept., Wash., received bids, May 7, Naval Ammunition Depot, from Enterprise Iron Works, 24th and Zandes Sts., Indianapolis, $24,917 (total); Cyclone Fence Co., Waukegan, Ill., 10,800 ft. at $1.94 per ft., total, $20,952; $3.50 per ft. for gate, and $4.50 per ft. for sliding gate; alternate bid, $2.05 per ft., total $22,140. Noted May 3.

Pa., **Media**—Post Office—J. A. Wetmore, superv. archt., Treas. Dept., Wash., received only bid from W. H. Fissell & Co., 1133 Broadway, New York City, $47,500. Noted Apr. 12.

★Md., **Baltimore**—Dredging—U. S. Engr. Office, Baltimore, let contract, Elk River, to W. H. French Dredging & Wrecking Co., Inc., Arcade Bldg., Norfolk, 25c. per cu.yd. Noted Apr. 26.

Md., **Indian Head**—Sulphur Storehouse and Elevator House—Bureau Yards and Docks, Navy Dept., Wash., received low bids, May 7, (a) work complete, (b) sulphur house complete, (c) elevator house complete omitting bucket elevator, (d) bucket elevator, from J. H. Nolan Constr. Co., Munsey Bldg., Wash., (a) $39,871, Penn. Bridge Co., Bond Bldg., Wash., (b) $21,326, (c) $2,595. Noted Apr. 26.

Wash., **D. C.**—Buildings—Bureau Yards and Docks, Navy Dept., Wash., received bids, contagious wards for Naval Hospitals, (a) Newport, R. I., (b) Portsmouth, N. H., (c) Norfolk, Va., (d) Great Lakes, Ill., from R. V. Richardson, Hampton, Va., (c) $73,432; C. E. Carson Co., 155 North Clark St., Chicago, (d) $29,400; Darling Slade Constr. Co., Newport, R. I., (a) $28,300; R. R. Richardson & Co., Norfolk, Va., (c) $48,420; N. B. Smyth, 417 East 34th St., New York City, (a) $40,959, (b) $43,368; Seay Bros., Norfolk, Va., (c) $52,000; J. Jeffrey Co., 127 North Dearborn St., Chicago, (a) $32,415, (d) $35,415; Newport Contr. & Engr. Co., Newport News, Va., (c) $48,100; C. W. Pence, Waukegan, Ill., (d) $37,400; M. Kelly, 51 East 48th St., New York City, (a) $25,257. Noted May 3.

★Wash., **D. C.**—Concrete Piers and Abutments—U. S. Engr. Office, rejected bids, for Key Bridge across Potomac River. Work will be done by day labor under supervision of War Dept. Noted Apr. 19.

★Wash., **D. C.**—Iron Posts—General Land Office, let contract to General Ventilating & Heating Co., 198 Milwaukee St., Milwaukee, $33 945 for small posts and $24,295 for large posts. Noted Apr. 12.

★Wash., **D. C.**—Structural Steel—E. Woods, supt. U. S. Capitol Bldgs. and Grounds, let contract, for use in reconstruction of courthouse, to Barber & Ross, 11th and G Sts., N.W., $23,000, less a reduction of $112 per ton. Noted Apr. 26.

★W. Va., **Wheeling**—Cement—U. S. Engr. Office, Wheeling, let contract, furnishing at Dams 21 and 22, Ohio River, to Universal Portland Cement Co., Frick Bldg., Pittsburgh, $90,000. Noted Apr. 26.

★W. Va., **Wheeling**—Lockkeepers Houses—U. S. Engr. Office, Wheeling, let contract, Dams 23 and 25, Ohio River, to E. N. Everson, Brilliant, $50,195. Bids on Dam 27 rejected. Noted Apr. 26.

Fla., **Pensacola**—Hangars and Erecting Shop—Bureau Yards and Docks, Navy Dept., Wash., received bids May 7, Navy Aeronautic Station, from McClintic-Marshall Co., 1421 Chestnut St., Phila.; H. Monk, 304 West Gregory St., Pensacola. Noted Apr. 26.

La., **New Orleans**—Crane—Bureau Yards and Docks, Navy Dept., Wash., received low bids, for Navy Yard, from Doullut & Williams, New Orleans, $29,000, S. T. Williams, 223 North Calvert St., Baltimore, $30,000; Bucyrus Co., South Milwaukee, Wis., $37,500. Noted Apr. 19.

★Tenn., **Memphis**—Riprap Stone—Mississippi River Comn., U. S. Engr. Office, Custom House, let contract to Ward & Brown, Little Rock, Ark., $12,250. Noted Apr. 12.

Mich., **Detroit**—Timber—U. S. Engr. Office, Detroit, received low bids, Apr. 30, furnishing and delivering at St. Mary's Falls Canal, Michigan, (a) 12 x 12-in., (b) 6 x 12-in., (c) 3 x 12-in., (d) 3 x 10-in., (e) 3 x 8-in., from H. J. Anderson Co., 520 Northwestern Bank Bldg., Portland, (a), (b), (c) and (e) $12.50 per M., (d) $12.25 per M.; Saari-Tully Lumber Co., 934 Northwestern Bank Bldg., Portland, all, $12.75 M., Duncan Lumber Co., P. O. Box 961, Portland, (a) and (b) $12.90 per M., (c) and (d) $12 per M., (e) $11 per M.

Wis., **Beaver Dam**—Post Office—J. A. Wetmore, superv. archt., Treas. Dept., Wash., received low bids, May 7, (a) limestone, (b) sandstone, from W. D. Lovell, 815 8th St., S.E., Minneapolis, (a) $48,325; G. W. Stiles Constr. Co., Rookery Bldg., Chicago, (a) $48,670, (b) $50,470; Michie Constr. Co., 86 Michigan St., Milwaukee, (a) $49,715, (b) $50,788. Noted Apr. 5.

★Power Plant—Wash., **Bremerton**—Bureau Yards and Docks, Navy Dept., Wash., let contract alterations, at Naval Torpedo Station, Puget Sound, to C. C. Moore & Co., Sheldon Bldg., San Francisco, $27,893.

MISCELLANEOUS

Proposed Work

Transmission Line—Bristol, Vt.—Hortonio Power Co., Rutland, plans to extend, to Monkton. Monktonridge (North Ferrisburg P. O.) and Hinesburg, to supply electricity in villages named and farms between Brandon and Hinesburg. I. M. Frost, Gryphon Bldg., Rutland, vice-pres. and gen. mgr.

Transmission Line—Newfane, Vt.—Twin State Gas and Electric Co., Masonic Bldg., Dover, N. H., subsidiary of Middle West Utilities Co., 72 West Adams St., Chicago, is securing right-of-way for extension from Newfane to Townshend. W. G. Melvon, Dover, treas. and gen. mgr.

Transmission Line—Greenfield, Mass.—Greenfield Electric Light and Power Co. granted permission to extend, to Northfield Farms. G. W. Lawrence, Greenfield, treas. and gen. mgr.

Garbage Plant—Arverne, N. Y.—M. Connolly, boro. pres., Hunters Point Bldg., Jackson Ave. and 4th St., Long Island City, having plans prepared by J. P. Powers Co., archts., Blvd., Rockaway Beach, for a 2-story, 38 x 57-ft. garbage plant. About $100,000.

Elimination of Grade Crossings—Brooklyn, N. Y.—Pub Ser. Comn. approved report of Act. Ch. Engr., together with opinion by H. W. Hodge, comr., and adopted resolution authorizing certificate of completion of work on alterations of former grade crossing on Long Island R.R. at Fresh Pond Rd. and Metropolitan Ave., Bushwick Junction. J. R. Savage, Jamaica, ch. engr.

Elimination of Grade Crossings—Buffalo, N. Y.—City plans, at Buffalo St. Cost, including paving under tracks, $32,000. C. G. Jones, city engr.

Subway—Phila., Pa.—T. B. Smith, mayor, approved ordinance authorizing construction and improvement of subway located mainly under Chestnut St., as connection between elevated railways leading to Frankford and Darby. C. Albright, city engr.

Motor Speedway — Warminster, Pa. — Phila. Motor Speedway Assn., Morris Bldg., Phila., voted $350,000 appropriation to construct, about 2 mi. long.

Fire Alarm System—Thomasville, Ga.—See "Streets and Roads."

Transmission Line—Sparta, Wis.—Wisconsin-Minnesota Light & Power Co. plans, 90-mi., connecting Sparta, Tomah and LaCrosse with present terminus of Wisota power plant at Nelson, Wis. A. E. Pierce, Eau Claire, 2nd vice pres. and gen. mgr.

Dam—Ft. Scott, Kas.—City having plans prepared by Black & Veatch, engrs., Interstate Bldg., Kansas City, Mo. About $30,000.

Garbage Plant—Lincoln, Neb.—City voted $50,000 bonds to install garbage plant for which plans are being prepared. A. Dobson, city engr.

Transmission Line—Ft. Smith, Ark.—Ft. Smith Light and Traction Co., controlled by Standard Gas and Electric Co., 206 South La Salle St., Chicago, plans, from Ft. Smith to Huntington, to furnish electrical service in Huntington. T. G. Kelly, Ft. Smith, supt. and claim agt.

Subway—Jonesboro, Ark.—St. Louis & Southwestern Ry., St. Louis & San Francisco Ry. and Jonesboro Lake City & Eastern R.R. are having surveys made for subway to be built in connection with model road of Jonesboro-Nettleton Rd. Dist. C. D. Purdon, Railway Exchange Bldg., St. Louis, Mo., ch. engr. of former company.

Levee—Dallas, Tex.—County election May 26 to vote on $108,000 bonds to construct Dallas Co. Levee and Improv. Dist. No. 2. Levee will connect with Ellis Co. Levee Dist. No. 3 on west side of Trinity River.

Grandstand—North Yakima, Wash.—State Fair Assn. soon receives bids, concrete and wood, at fair grounds. M. Deveaux, archt., prepared plans. About $20,000. F. Meredith, secy. E. F. Benson, comr. of agriculture.

Stone Unloader—Seattle, Wash.—Pioneer Sand & Gravel Co., Northern Bank & Trust Bldg., plans to purchase.

Harbor Improvements—Newport, Ore.—County voted $418,000 bonds to enlarge ports of Newport and Toledo on Yaquina Bay. Entire project will cost $836,000, of which U. S. Government will bear part. Noted Apr. 19.

Harbor Improvements—Long Beach, Cal.—City will improve Long Beach Harbor. About $300,000 available for work. A. deRing, city engr.

Elimination of Grade Crossings—Los Angeles, Cal.—Pacific Electric Ry. and City plans, at Mission Rd. in Rose Hill Dist. J. McMillam, Pacific Electric Bldg., gen. mgr. of R.R. H. Hamlin, city engr.

Docks, Etc.—Richmond, Cal.—John Nicholl Co., W. G. Henshaw, A. S. Macdonald and Crook Estate organized Nicholl Terminal Holding Co. to act as holding company for 99-year leases to be given to an English syndicate which plans to establish docks and terminals for rail and steamer on water front. Plans include 2 docks, each 1000 ft. long, to connect with Southern Pacific and Atchison, Topeka & Santa Fe railways and terminals for freight shipments. About $5,000,000.

Dam—San Diego, Cal.—See "Reinforced Concrete."

Garbage Plant—San Diego, Cal.—W. H. Faust, Pasadena, submitted plans to F. M. Lockwood, mgr., to build. G. Cromwell, city engr.

Wharf—San Diego, Cal.—Normandy Packing Co. will construct 500-ft. wharf on Crosby St. in connection with fish cannery now being built.

Pier—San Francisco, Cal.—State Bd. Harbor Comrs. rejected bids for Pier No. 46. Will readvertise.

Miscellaneous (Continued)

Garbage Plant—Que., Montreal—P. E. Mercer, city engr., and C. Cote, controller, in favor of installing garbage destructor plant to cost $1,000,000.

Towers—Que., Three Rivers—Shawinigan Water and Power Co. plans 2 aluminum towers, 350 ft. high, on concrete foundation, to carry transmission line over St. Lawrence ship canal, about 5280 ft. J. C. Smith, 611 Power Bldg., Montreal, vice pres. and ch. engr.

Drydock—Ont., Hamilton—Canada Steamship Lines, Ltd., 9 Victoria Sq., Montreal, plans, here. About $250,000.

Breakwater—Orchard Beach, Ont.—Dept. Pub. Wks. of Dominion Government plans. R. C. Desrochers, Ottawa, secy.

Bids Desired

Subway—Brookline, Mass.—See "Reinforced Concrete."

Park Improvements—Albany, N. Y.—Until May 21 by Bd. Contract and Supply for Improving Hudson Park on Hudson Ave. F. R. Lanagan, city engr.

Bulkhead—New York, N. Y.—See "Reinforced Concrete."

Passenger Station, etc.—New York, N. Y.—(Official)—Until May 24 by Interborough Rapid Transit Co., 165 Broadway, for completion of passenger station, electric lighting and electric heating system on 7th Ave. line, Routes 4 and 38, Pelham Bay Park Branch of Lexington Ave. line, Route 5, Sect. 15 and Routes 19 and 22, Sects. 1 and 1-A, Lexington Ave. line, Route 5 (Manhattan and Bronx Boros.) G. H. Pegram, ch. engr.

Refrigeration Equipment, Etc.—Thiells, N. Y.—(Official)—Until May 29 by F. A. Vanderlip, pres. bd. mgrs. Letchworth Village, 7 Wall St., New York City; advertised in this issue.

Dock Wall, Etc.—Troy, N. Y.—(Official)—Until May 31 by Harbor & Dock Comn., City Hall; advertised in this issue.

Pier—Sewalls Point, Va.—Until May 21 by W. W. Gwathmey, engr., 627 Seaboard Bank Bldg., Norfolk, and B. F. Cresson, engr., 50 Church St., New York City, for shore portion of Municipal Pier No. 1. Noted Apr. 19.

Retaining Walls—Fayetteville, W. Va.—See "Streets and Roads."

Flood Protection—Columbus, O.—Until May 22 by G. Borden, dir., pub. serv., excavating test pits along Scioto River, connecting with river channel improvement.

Road Grader—Minn., Ivanhoe—Until May 22 by K. A. Hansen, co. aud.

Culverts—Roseau, Minn.—Until May 21, S. G. Bertilrud, co. aud., for furnishing various sizes of metal culverts during year.

Street Lighting System—Bayard, Neb.—(Official)—Until May 21 by C. Mantz, village clk.; advertised in this issue.

Boardwalk—Newport Beach, Cal.—Until May 21 by city for board walk on pile bents, 2800 ft. long and 12 ft. wide on Ocean Ave. P. E. Kressley, city engr.

Jetty—Newport Beach, Cal.—(Official)—Until June 4 by C. M. Crego, city clk.; advertised in this issue.

Prices and Contracts Awarded

(★Indicates award of contract)

★Earth Dam—Fitchburg, Mass.—(Official)—Bd. Water Comrs., City Hall, let contract to G. Rosse & Son, Leominster, $14,400. Noted Apr. 19.

★Dock—Buffalo, N. Y.—See "Reinforced Concrete."

★Seawall, Pier and Bathhouse—Great Neck, N. Y.—H. Bendel, 10 West 57th St., New York City, let contract, to P. T. Cox, 154 Nassau St., New York City.

Ballast—New York, N. Y.—(Official)—Pub. Serv. Comn., for 1st Dist., 120 Bway., received low bids supply of ballast for use in construction of rapid transit railroads from Upper Hudson Stone Co., 26 Cortlandt St., hard limestone, $47,800, and G. McCarthy, Jr., New Haven, trap rock, $54,250. Noted Apr. 26.

Garbage Incinerator—New Brunswick, N. J.—(Official)—Bd. Comrs. received low bids from Borge Incinerator Co., Flat Iron Bldg., New York City, $16,903; W. K. Herberts, McKeesport, Pa., $19,520; Nye Odorless Crematory Co., Norfolk, Va., $22,800. Noted Apr. 26.

★Pier, etc.—Newport News, Va.—Dock Comn. let contract pier and docks at Bush Bluff to Alsop & Pierce, Newport News, $145,000.

★Pier—Sarasota, Fla.—See "Reinforced Concrete."

★Retaining Wall—Indianapolis, Ind.—See "Reinforced Concrete."

★Park Improvements—Topeka, Kan.—City Comn. let contract improving Ripley Park to G. Senne, Topeka, $20,065.

★Transmission Line—Norfolk, Neb.—(Official) Nebraska Gas & Electric Co. will construct, from Norfolk to Hadar by day labor and will install 75-kw. and 100-hp. steam turbine. W. C. Ross, Woodman of World Bldg., Omaha, genl. mgr. Noted May 3.

★Levee—Pine Bluff, Ark.—(Official)—Farelly Lake Levee Dist. let contract team work for building levee across low land of Big Bayou Meto, Jefferson and Arkansas Cos. to E. J. Hahn, 833 South Trust Bldg., Little Rock, 200,000 cu.yd. enlargement 24.5c.; new levee work for drag line to R. H. & G. A. McWilliams, Exchange Bldg., Memphis, Tenn., 500,000 cu.yd., 26.5c. Noted Apr. 5.

Fill—Seattle, Wash.—Port of Seattle Comn. received low bids filling portion Salmon Bay from Puget Sound Bridge and Dredging Co., Central Bldg., $28,600; Standard American Dredging Co., $31,200.

★Wharf—San Francisco, Cal.—State Bd. Harbor Comrs. let contract Islais Creek Wharf to Healy-Tibbitts Constr. Co., Main and Market Sts., $60,680.

★Sweepers, Etc.—Montreal, Que.—City let contract furnishing sweepers to Comet Motor Co., Ltd., 307 University St.; flushers to A. Jennings & Co., 15 Wellington St.

★Wharf—Three Rivers, Que.—Canadian Iron Corp., St. Maurice St., let contract to C. Page, Des Anges St., $19,000.

Cardinell-Vincent Co.—George Vincent's holdings in the Cardinell-Vincent Co., of San Francisco, have been purchased by J. D. Cardinell, the president, who announces that the company's policy will remain unchanged. Ten years ago Mr. Vincent's experiments with "Vellum" tracing paper terminated in a commercial product, which was sold for a time in a desultory fashion by Mr. Cardinell, then a commission salesman operating in the vicinity of San Francisco. A year or two later the paper was introduced in the East, the price per roll of 20 yd. being $6, which was almost as high as the price of tracing cloth. The price of the paper has been reduced and its production has increased steadily. It is the company's present intention to supply the paper in sheets of various sizes, and Mr. Cardinell expects to visit New York in the near future for the purpose of purchasing the necessary machinery for cutting the paper into sheets.

The American Bridge Co. has removed its local offices to the Guardian Bldg., Cleveland, O.

Flad-Humphrey Engineering Co., St. Louis, Mo., incorporated to engage in the general practice of engineering. E. Flad, H. H. Humphrey and W. R. Humphrey, incorporators.

Pocatello Engineering and Machinery Co., Salt Lake City, Utah, incorporated by R. P. Fairbanks, W. J. Cruse and H. R. Waldo.

John J. White, La Crosse, Wis., and **Louis A. Geupel**, Evansville, Ind., have formed a partnership in La Crosse to engage in the general contracting business.

Few Bidders for Treasury Buildings—There has been a very noticeable falling off in the number of bidders for post-offices and other buildings constructed under the office of the Supervising Architect of the Treasury, as noted in last week's issue. Formerly for a post-office of the usual size—that is, costing $50,000 or the average—there were regularly form eight to ten bidders. This number has now dropped to an average of two or three bidders, in many cases only a single bid being received. The largest number of bids received for any one post-office since Apr. 1 has been six.

There is a marked tendency on the part of contractors to decline to bid on this class of work even on the part of those who habitually bid on post-office contracts. The change has taken place since the declaration of war and is undoubtedly due to the fear of war conditions. The contractors seem to be afraid to undertake any construction work for the government on account of the severe penalties for delay and non-performance. No ill effect has been sustained by the Supervising Architect's Office up to the present time, as it is within their province to make awards to contractors even if they are the only bidder, provided their bid is within the amount available, but it can easily be seen that if the tendency continues it may be impossible to obtain bids for post-offices.

The World's Largest Lumber Order is said to have been placed recently by the United States Government with the Southern Pine Association to meet the war requirements for wooden ships, army barracks, etc. The Government has contracted for the purchase of more than two billion feet of Southern pine at a price of from $35,000,000 to $40,000,000. The total output of all the Southern Pine mills of Louisiana (the most important pine state) in 1915 was only 2.9 billion feet. The lumber will be delivered as required, deliveries extending over a period of several months. The Southern Pine Association has established a branch office in Washington, D. C., so that it may remain constantly in touch with the Government. Mills which will participate in the contract are located in the Southern States, and are said to include nearly all the members of the Southern Pine Association, the combined monthly output of whose plants averages 450,000,000 feet.

Beery Engineering Co., Inc., Rockford, Ill., has been incorporated to carry on a general engineering and construction business.

Canada Cement Co. has been taken over by a new company organized by C. C. Laplerre, Montreal, Que., who will operate the plant.

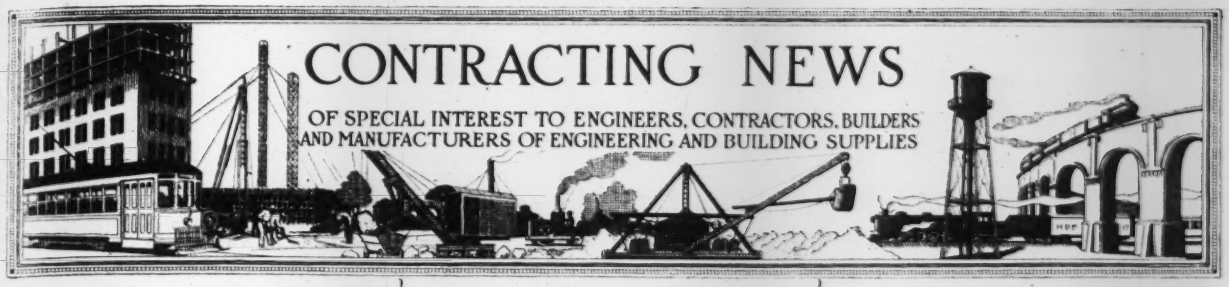
Josiah Tice Engineering & Surveying Corp., New Brunswick, N. J., has been incorporated to engage in the general practice of engineering and surveying. John T. Hopkins, J. W. Parsons, Highland Park; W. H. Baker, Deans, F. E. Tice, New Brunswick, incorporated.

BARGE CANAL WORK, ALBANY, N. Y.

Contract No. 138

Bids were received by W. W. Wotherspoon, Supt. Pub. Wks., Capitol, for Barge Canal Work, Contract No. 138, improving Erie, Oswego and Champlain Canals, from (A) Combined Construction Co., Rochester; (B) MacArthur Bros. Co., 120 Broadway, New York; (C) Lupfer & Remick, Ellicott Bldg., Buffalo. The unit bids were as follows:

	A	B	C
11,100 cu.yd. excavation	$1.80	$2.50	$2.00
46 M ft.b.m. sheeting and bracing	55.00	75.00	65.00
2,400 lin.ft. round timber bracing	.25	.40	.30
700 sq.ft. channeling	.60	1.00	.56
820 lin.ft. drilling holes in rock	1.20	1.00	1.00
1,800 cu.yd. forming embankment	.18	.25	.15
16 M ft.b.m. sawed lumber, yellow pine	70.00	90.00	80.00
5 M ft.b.m. sawed lumber, white oak	120.00	120.00	120.00
103 cu.yd. first-class concrete	12.00	15.00	14.00
7,370 cu.yd. second-class concrete	7.50	8.50	9.40
1,070 cu.yd. first-class concrete—reinforced	10.00	15.00	15.00
920 cu.yd. second-class concrete—reinforced	9.00	11.00	11.50
520 lin.ft. 18-in. vitrified pipe, laid	1.32	1.50	1.30
500 lin.ft. 8-in. vitrified pipe, laid	.42	.50	.40
230 lin.ft. 6-in. vitrified pipe, laid	.24	.30	.22
1,510,000 lb. structural steel	.088	.098	.098
90,500 lb. metal reinforcement	.06	.06	.06
30,000 lb. w. i. chains for Mohawk dam	.12	.15	.12
13,300 lb. pipe railing	.18	.20	.16
14,100 lb. embedded c. i. shoes for Mohawk dam	.084	.10	.10
1,270 lb. bronze in headgates	1.00	1.00	.60
113,000 lb. machinery	.21	.25	.20
Gate valves, sluice gates, etc., for sector gates (lump sum)	2,800.00	3,000.00	3,300.00
11 gate hoists	780.00	800.00	800.00
Indicator for sector gates (lump sum)	600.00	1,200.00	750.00
Weir tube equipment (lump sum)	2,400.00	3,000.00	2,300.00
Operator's house (lump sum)	2,640.00	3,000.00	2,200.00
45,000 lb. metal in winches	.22	.30	.25
2 electrical equipment for winches	1,320.00	1,200.00	1,300.00
Electrical equipment for operator's house (lump sum)	624.00	700.00	600.00
8 trolley brackets	30.00	35.00	30.00
2 trolley poles	60.00	75.00	60.00
3 lamp poles	120.00	120.00	120.00
3 outdoor lamp brackets	36.00	40.00	30.00
6 outdoor, 750-watt lamps	18.00	25.00	18.00
570 lin.ft. 400,000 C. M. lead covered conductors	1.44	2.00	1.30
300 lin.ft. No. 2 lead covered conductors	.60	.75	.50
850 lin.ft. No. 8 lead covered conductors	.24	.30	.22
900 lin.ft. No. 8 rubber insulated braided conductors	.14	.15	.14
116 lin.ft. No. 10 rubber insulated braided conductors	.12	.15	.12
570 lin.ft. No. 0 bare copper conductors	.30	.30	.30
5,460 lb. metal duct	.14	.20	.14
Maintenance accessories (lump sum)	210.00	250.00	210.00
Removing and rebuilding heating plant	2,016.00	2,500.00	2,900.00
Coffer-dams, pumping, bailing and draining	12,000.00	17,000.00	40,000.00
Extended totals	$321,115	$378,574	$389,439



Proposals

For Proposals Advertised See Pages 48 to 54 Inclusive

WATERWORKS

Bids Close.		See Eng. News-Record.
May 28.	Boston, Mass.	May 24
May 29.	Toledo, O.	May 24
June 1.	Rushville, Ill.	May 24
June 2.	Kendallville, Ind. Adv. May 24.	May 24
June 4.	Barrow, Wis.	May 24
June 4.	Milbank, S. D.	May 24
June 5.	Constantine, Mich.	May 24
June 8.	West Haverstraw, N. Y.	May 24

SEWERS

May 28.	Syracuse, N. Y.	May 17
May 28.	West Burlington, Ia.	May 10
May 29.	Barberton, O. Adv. May 17.	May 17
May 29.	Jackson, Tenn. Adv. May 17.	May 17
May 29.	Leland, Miss. Adv. May 3 and 10.	May 10
May 29.	New Iberia, La.	May 17
May 29.	Wabash, Minn.	May 24
May 29.	Steubensville, O.	May 24
May 31.	Creston, Ia.	May 17
May 31.	Jacksonville, Fla. Adv. May 17.	May 17
June 2.	Burlington, Wis.	May 10
June 5.	Newark, N. J. Adv. May 10 to 24.	May 10
June 5.	Auburn, N. Y.	May 10
June 5.	Oklahoma, Okla. Adv. May 3 to May 17.	May 24
June 6.	Huntington, W. Va.	May 24
June 12.	Newark, N. J.	May 17
June 19.	Newark, N. J.	May 24
June 28.	Chicago, Ill. Adv. May 24.	May 24

STRUCTURAL STEEL WORK

May 28.	Clifton, Ariz. Adv. May 3 and May 10.	May 3
May 28.	Sudbury, Ont.	May 24
June 4.	Fairfield, Cal.	May 24
June 5.	Oacoma, S. D.	May 24
June 5.	Miller, S. D.	May 24
June 5.	Parker, S. D.	May 24
June 5.	Mt. Vernon, Wash.	May 24
June 6.	Dayton, O.	May 17
June 7.	Coquille, Ore.	May 24
June 8.	New Ulm, Minn.	May 24

REINFORCED CONCRETE

May 25.	Palatka, Fla.	May 17
May 29.	Lawrence, Mass. Adv. May 24.	May 24
May 31.	Eugene, Ore.	May 24
June 4.	Olympia, Wash.	May 24
June 4.	Hollister, Cal.	May 24
June 5.	Elkader, Ia. Adv. May 17 and 24.	May 17
June 5.	Oswego, Kan.	May 24
June 6.	Winfield, Kan.	May 24
June 11.	New Philadelphia, O.	May 24

STREETS AND ROADS

May 26.	Alexandria, La.	May 3
May 26.	Bartow, Fla. Adv. May 3 and 10.	May 10
May 26.	Wildwood, N. J.	May 17
May 27.	Sprague, Wash.	May 17
May 28.	Austin, Minn.	May 10
May 28.	Batavia, Cal.	May 10
May 28.	Montesano, Wash.	May 17
May 28.	Olympia, Wash.	May 17
May 28.	Everett, Wash.	May 17
May 28.	California.	May 17
May 28.	Albany, N. Y. Adv. May 17 and 24.	May 17
May 28.	Owensville, Ky.	May 24
May 28.	New York, N. Y.	May 24
May 28.	Long Island City, N. Y.	May 24
May 28.	Buhl, Minn.	May 24
May 29.	Lebanon, O.	May 24
May 29.	Alexandria, Minn.	May 24
May 29.	Charleston, S. C.	May 17
May 29.	Port Clinton, O.	May 3
May 29.	Lebanon, O.	May 10
May 29.	Cleveland, O.	May 17
May 29.	Port Angeles, Wash.	May 17
May 29.	Jersey City, N. J.	May 17
May 29.	Napoleon, O.	May 24
May 29.	New York, N. Y.	May 24
May 30.	Dallas, Tex.	May 24
May 30.	Lenoir, N. C. Adv. Apr. 26.	Apr. 26
May 30.	Russellville, Ark.	May 17
May 30.	Greenville, Miss. Adv. May 17 and 24.	May 17
May 31.	Indiana	May 17
May 31.	Nashville, Mich. Adv. May 17 and 24.	May 17
May 31.	Milwaukee, Wis.	May 10
May 31.	Brainerd, Minn.	May 10
May 31.	Long Island City, N. Y.	May 24
May 31.	Newark, N. J.	May 24
May 31.	Hartford, Conn. Adv. May 24.	May 24
May 31.	Illinois	May 24
June 1.	Grove City, Pa. Adv. May 17 and 24.	May 17
June 1.	Quincy, Cal.	May 24
June 1.	Forest City, Ia.	May 24
June 1.	Springfield, O.	May 24
June 2.	Dayton, O.	May 17
June 2.	Lakewood, N. J. Adv. May 17 and 24.	May 17
June 4.	Mishawaka, Ind.	May 10
June 4.	Westfield, N. J. Adv. May 17.	May 17
June 4.	Woodland, Cal.	May 24
June 4.	Covington, Va.	May 24
June 4.	Wooster, O.	May 24
June 5.	Boulder, Colo.	May 17
June 5.	Indiana	May 17
June 5.	Yadkinville, N. C.	May 17
June 5.	Oklahoma, Okla.	May 24
June 5.	Coalgate, Okla.	May 24
June 5.	Johnson City, Tenn.	May 24
June 6.	Bay Minette, Ala.	May 24
June 6.	Visalia, Cal.	May 24
June 6.	Indiana	May 17
June 7.	Indiana	May 17
June 8.	Crowley, La.	May 10
June 10.	Seattle, Wash.	May 24
June 11.	Fayetteville, W. Va.	May 17
June 12.	Harrisburg, Pa. Adv. May 17 and 24.	May 17
June 14.	Fairmont, W. Va.	May 24
Aug. 13.	Lewiston, Idaho	May 24

EXCAVATION AND DREDGING

May 26.	Anderson, Ind.	May 24
May 26.	Huntington, Ind.	May 24
May 31.	Schuyler, Neb.	Apr. 26
May 29.	Albany, N. Y. Adv. May 3 to May 24.	May 3
May 29.	Youngsville, La.	May 17
May 29.	Savannah, Ill.	May 24
June 1.	Cape Girardeau, Mo. Adv. May 17.	May 17
June 1.	Rushville, Ind. Adv. May 10 and 17.	May 17
June 1.	Scandia, Kan.	May 17
June 1.	Crookston, Minn.	May 24
June 5.	Fremont, Neb.	May 17
June 5.	Tallahassee, Fla. Adv. May 24.	May 24
June 5.	Grundy Center, Ia.	May 24
June 6.	Owatonna, Minn.	May 24
June 7.	Madison, S. D. Adv. May 17 and 24.	May 17
June 12.	Algona, Ia.	May 17
June 12.	Fresno, Cal.	May 24
June 14.	Lonoke, Ark. Adv. May 17.	May 17
June 18.	Petersburg, Ind.	May 24

BUILDINGS

May 28.	Macon, Ga.	May 24
May 29.	Hoboken, N. J.	May 17
May 29.	Bedford, O.	May 24
May 30.	Urbana, Ill. Adv. Apr. 26.	Apr. 26
June 2.	Redfield, S. D.	May 10
June 2.	Wheeling, W. Va.	May 24
June 4.	Drake, N. D.	May 17
June 4.	College Springs, Ia.	May 24
June 4.	Fargo, N. D.	May 24
June 5.	Ness City, Kan.	May 17
June 5.	Centerville, Ia.	May 24
June 6.	Canton, O.	May 17
June 9.	Jacksonville, Fla.	May 17
June 9.	Randolph, Ia.	May 24
June 11.	Cleveland, O.	May 24
June 12.	Vandergrift, Pa.	May 24
June 15.	Lakota, N. S.	May 24

INDUSTRIAL WORKS

May 31.	Dunkirk, N. Y. Adv. May 24.	May 24

FEDERAL GOVERNMENT WORK

May 28.	Jasper, Ala. Adv. Apr. 19 and 26.	Apr. 26
May 28.	Bremerton, Wash.	May 17
May 28.	Washington, D. C.	May 17
May 28.	La Crosse, Wis.	May 17
May 28.	Norfolk, Va.	May 24
May 29.	Wash., D. C.	May 24
May 29.	Southbridge, Mass. Adv. Apr. 19 and 26.	Apr. 26
May 29.	Berwick, Pa. Adv. Apr. 26 and May 3.	Apr. 26
May 29.	Charlotte, N. Y. Adv. May 10.	May 10
May 29.	New London, Conn. Adv. May 10 and May 17.	May 10
May 30.	Ft. Michie, N. Y.	Apr. 26
May 30.	Ft. Snelling, Minn. Adv. Apr. 26 and May 3.	May 17
May 31.	Washington, D. C. Adv. May 10 and May 17.	May 10
June 1.	New Albany, Ind.	May 10
June 1.	Denver, Colo.	May 24
June 1.	Cody, Wyo.	May 24
June 1.	Altus, Okla.	May 24
June 1.	San Pedro, Cal.	May 24
June 2.	Ft. Greble, R. I.	May 10
June 2.	Wash., D. C.	May 24
June 4.	Sanford, Fla.	May 10
June 4.	Wilmington, Del. Adv. May 10 to 24.	May 17
June 4.	Wash., D. C.	May 24
June 5.	Olney, Ill.	May 3
June 6.	Orange, Tex.	May 3
June 6.	Golden Gate, Cal. Adv. May 17 and 24.	May 17
June 6.	Ft. Laramie, Wyo.	May 17
June 6.	Ft. Andrews, Mass.	May 24
June 7.	Marion, Ill.	May 3
June 7.	Cape Henry, Va.	May 24
June 8.	Denton, Tex.	May 17
June 9.	Montgomery, Ala. Adv. May 17 and 24.	May 17
June 11.	Bridgeport, Conn.	May 17
June 11.	New York, N. Y. Adv. May 17 and 24.	May 17
June 11.	Wash., D. C.	May 24
June 12.	State College, Pa. Adv. May 17 and 24.	May 17
June 14.	Cherryvale, Kan.	May 17
June 14.	Three Rivers, Cal.	May 17
June 14.	Ft. Bliss, Tex. Adv. May 24.	May 24
June 14.	Wash., D. C.	May 24
June 15.	Memphis, Tenn. Adv. May 24.	May 24
June 16.	Montgomery, Ala. Adv. May 17 and 24.	May 17
June 18.	Akron, O.	May 17
June 19.	Montevideo, Minn.	May 17
June 19.	Aledo, Ill. Adv. May 17 and 24.	May 17
June 20.	Beaufort, S. C. Adv. May 17.	May 17
June 21.	Cambridge, Md.	May 17
June 22.	Fordyce, Ark. Adv. May 17 and 24.	May 24
June 23.	Raton, N. M.	May 17

Bids Close.	See Eng. News-Record.

MISCELLANEOUS

May 28. Subway—Davis, Cal. .....May 10
May 28. Pipes and Cables—New York, N. Y. .....May 24
May 29. Finishing Hardware — Syracuse, N. Y. .....May 24
Adv. May 24.
May 29. Refrigeration Equipment—Thiells, N. Y. .....May 17
Adv. May 17.
May 29. Trucks—Bayonne, N. J. .....May 24
May 31. Dock Wall—Troy, N. Y. .....May 17
Adv. May 17 and 24.
May 31. Timber Groynes—Brooklyn, N. Y. May 24
June 4. Jetty—Newport Beach, Cal. .....May 17
Adv. May 17 and 24.
June 4. Tracks—New York, N. Y. .....May 24

Where name of official is not given, inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATER-WORKS

Proposed Work

N. Y., Wyantskill—See "Buildings."

N. J., Perth Amboy—City proposes to extend water system; plans include new pumping engine and building, $30,000; boiler plant and building, $35,000; suction lines, $10,000; dams and spillways, $15,000; trestle and coal pockets, $20,000; wells and connections, $20,000. S. J. Mason, city engr.

N. J., South Amboy—Council plans to build water-pumping plant for water system.

N. C. Beaufort—City plans to install water mains in Cedar, Ann and Main Sts.

N. C., Greenville—Town to sell $100,000 bonds to improve water and light plants. J. C. Tyson, clk.

Fla., Palatka—City plans election to vote on $60,000 bonds to improve water system.

Tenn., Chattanooga—City Water Co. had plans prepared extending water mains to Chicamauga Natl. Park. About $150,000.

Tenn., Manchester—City defeated $27,000 bonds for water system. Noted Apr. 12.

O., Canton—City rejected bids installing pumping system in southwest section of city, estimated to cost $80,000. A. Burdick, engr., Chicago, to revise plans and submit new estimate.

O., Chardon—City voted $58,000 bonds to install water system. Noted May 10.

O., Cincinnati—See "Streets and Roads."

O., Greenville—Council passed ordinance to issue $60,000 bonds for improving water system, pump house, including clear water and sedimental basins, pumps, piping, etc. G. A. Johnson, 150 Nassau St, New York City, engr.

O., New London—City plans to install water system. P. Burgess and H. H. Hampton Alliance, engrs.

Ill., Albion—(Official)—City defeated $19,500 bonds for water system.

Wis. Potosi—(Official)—Village soon receives bids for water-works. Bonds for $10,000 voted for project. C. L. Callaway, clk. Noted Apr. 26.

Kan., Baxter—(Official)—City plans election to vote on $85,000 bonds to install water system. A. C. Moore, constr. engr.

Kan., Beloit—(Official)—City rejected bids for water system involving 200-hp. tube boiler, two 400-gal.-per-min. motor-driven pumps, 3-ft. head; two 400-gal.-per-min. motor-driven pumps, 200-ft. head, and equipment for 500,000-gal. plant. About $50,000. Black & Veatch, Interstate Bldg., Kansas City, Mo., engrs. Noted May 10.

N. D., Anamoose—See "Sewers."

Mo., Kirkville—City defeated $118,000 bonds to improve water and light plants. Noted Apr. 19.

Mo., Plattsburg—City defeated $60,000 bonds for water and sewerage systems.

Ark., Marvel—See "Sewers."

Okla., Billings—City receiving bids about Aug. 1 for water and light plants and installing sewers. Cost, $50,000. L. Panton, pres. of bd. pub. wks. Mackintosh-Walton Eng. Co., 1023 State National Bank Bldg., Oklahoma City, engrs.

Okla., Enid—City plans to improve water-works system.

Okla., Rush Springs—City election June 1 to vote on $30,000 bonds to install water system.

Okla., Woodsville—City defeated $60,000 bonds to build water and sewerage systems.

Idaho, Grace—City election June 9 to vote on $25,000 bonds to install water-works system. E. Christenson, clk.

Ariz., Yuma—F. E. Trask, engr., Union Oil Bldg., Los Angeles, submitted report to city council stating that it will cost $363,987 to install water system and gas plant with distributing system or $162,420 to purchase and $129,460 to improve privately owned plants.

Wash., Raymond—See "Reinforced Concrete."

Wash., St. John—City voted $16,000 bonds to install water system.

Wash., Seattle—City will build wooden standpipe at Maple Leaf Reservoir to hold 35,000 gal. water. About $60,000 available for work. L. B. Youngs, supt.

Cal., Modesto—See "Streets and Roads."

Ont., Leamington—Council plans to install reservoir.

Ont., Ridgetown—Town Council plans to build 12,000-gal. capacity cement tank. D. Cochrane, clk.

B. C., Delta—City plans to install reservoir at water-works. M. A. McDiarmid, clk.

Bids Desired

Mass., Boston—Until May 28 by Dept. Pub. Wks. for 142 tons c.-i. special castings for water dept. J. Donovan, clk.

N. Y., West Haverstraw—(Official)—Until June 8 by G. Blagden, pres. bd. mgrs., New York State Hospital for Care of Crippled and Deformed Children, for water tank and connections and artesian well for water supply at hospital.

O., Toledo—(Official)—Until May 29 by D. H. Goodwithe, dir. pub. serv., for addition to Broadway high-service pumping station. About $75,000. H. C. McClure, city engr. Noted May 10.

O., Toledo—Until May 29 by City furnishing 400 tons c.-i. pipe, 30 tons 3-, 4-in. lead pipe and 12 tons c.-i. special fittings for water dept. G. L. Shanks, 340 Valentine Bldg., city purch. agt.

Ind., Kendallville—(Official)—Until June 2 by E. O. Michaelis, clk., for improving water system; advertised in this issue.

Mich., Constantine—(Official)—June 5 by Village, improving water-works stations including new concrete forebay, penstock and wheel house, re-setting present water wheels and rebuilding present station. A. E. Tracey, clk. A. H. Smith Co., 320-324 Nasby Bldg., Toledo, engrs.

Wis., Barron—Until June 4 by city clk., building 14- or 16-in. deep well for water-works.

Minn., Wabash—See "Sewers."

S. D., Milbank—Until June 4 by City installing filter equipment for mechanical gravity filter plant of 500,000 gal.; also 300 G. P. M. motor-driven centrifugal pump, A. A. Bloomquist, clk. L. P. Wolff, 1000 Germania Life Bldg., St. Paul, Minn., engr.

Ont., Sudbury—See "Structural Steel."

Prices and Contracts Awarded

(★Indicates award of contract)

★**N. J., Ogdensburg**—(Official)—Boro. let contract installing water-works to H. K. Carbin, 30 Church St., New York City. Noted Apr. 5.

★**Okla., Talaquah**—City let contract improving water system to J. W. Rooks, McAlester, $30,800.

★**Ont., York**—City let contract laying water mains in portion Eglinton, West St. Clair, Baby Point and Windemere Aves., and Jane St. to Dominion Constr. Co., Ltd., Toronto, $43,012; Weston Rd., Oakwood and Vaughan Aves., to Mitchell & Nohan, London, $21,122.

SEWERS

Proposed Work

Mass., Pittsfield—Bd. Pub. Wks. plans to install 2 new pumps at sewage-disposal plant. About $14,000. H. T. Strong, city engr.

N. Y., Wyantskill—See "Buildings."

N. J., Camden—Council plans to install sewers in Fillmore and Louis Sts. and Trinity Ave. A. L. Sayer, st. comr.

Pa., Cheltenham—(Official)—Town had plans prepared by Albright & Melbus, engrs., 907 Land Title Bldg., Phila., for sanitary sewerage system. Bonds for $625,000 voted for work. Noted May 10.

W. Va., Huntington—City plans to install sewers in portions of Jackson and Monroe Aves., alley between Jackson and Van Buren Ave., alley between Baltimore & Ohio R.R. and Jefferson Ave. and alley between Kanawha and Charleston Ave. A. B. Maupin, city engr.

W. Va., Weston—State Legislature, Charleston, passed bill appropriating $44,000 for sewage-disposal plant at Weston Insane Asylum.

Ga., Columbus—City election in September to vote on $150,000 bonds to improve sewers.

Tenn., Marysville—City plans to vote on $70,000 bonds to install sewerage system.

Ky., Owensboro—H. Talbother, city engr., preparing plans to install sewers in various sections of city. Noted May 3.

O., Canton—City soon lets contract installing sanitary sewers in Crystal Park, Bonnet Pl., N. E., and 17th St., and storm sewer in Navarre Rd., S. W. W. E. Sarver, city engr.

O., Cincinnati—Council approved plans submitted by F. S. Krug, city engr., for installing sewer in ravine south of Ridgeway Ave. About $16,600.

O., Cincinnati—F. S. Krug, city engr., preparing plans installing sewers portions Mitchell, Clifton Springs and Redbud Ave., Reading Rd., Ridge St. and Lenox Pl. About $25,340.

O., Cleveland—G. W. Fuller, engr., 170 Broadway, New York City, submitted report to A. Bernstein, dir. pub. serv., estimating cost of sewage-disposal plant at $4,000,000. Plans include system with plants at West 58th St. and lake shore, similar plant at foot of East 140th St. and in southern section of city. R. Hoffman, city engr. Noted Apr. 12.

O., Marion—City plans to install sanitary and storm sewers in portion Reed Ave. E. S. Ott, city engr.

O., Middletown—City to sell $16,000 bonds June 14 to install sewers in various streets. W. C. Morrison, city engr.

O., Piqua—City rejected bids installing sanitary and storm sewers in Water St. New bids J. F. Luckey, dir. pub. wks.

Ill., Rock Island—Cities of Rock Island and Moline plan to install 46th St. storm drain. About $20,000; cost to be divided equally between cities. N. Treichler, city engr. of Rock Island.

Minn., Caledonia—Village receiving bids in June installing sewerage system. D. C. Merlo, clk. J. F. Druar, 312 Commercial Bldg., St. Paul, Engr.

Minn., Pine City—City receiving bids about June 1 for sewer extensions. H. J. Buirge, clk. J. F. Druar, 312 Commercial Bldg., St. Paul, engr.

N. D., Anamoose—City making surveys installing sewerage and water systems.

Mo., Plattsburg—See "Water-Works."

Mo., St. Joseph—City election in June to vote on $350,000 bonds to extend and repair main sewers. C. P. Hoff, city engr.

Ark., Marvel—(Official)—City retained U. S. Sanitary Septic Tank Co., 1212-13 Cotton Exchange Bldg., Memphis, to make plans for sanitary sewerage and water systems.

Tex., Graham—(Official)—City retained H. E. Elrod, engr., Interurban Bldg., Dallas, to make plans to install sewerage system and sanitary disposal plant. About $25,000. Noted May 10.

Okla., Stillwater—Council plans to install sanitary sewerage system in Dist. No. 19.

Okla., Woodsville—See "Waterworks."

Cal., Modesto—See "Streets and Roads."

Ont., Bridgeburg—G. Ross, town engr., preparing plans extending sewerage line along Central Ave., south of Lewis St.

Bids Desired

N. J., Newark—Until June 19 by Passaic Valley Sewerage Comn. for foundations, connections, etc., at Yantacaw pumping station, Clifton.

W. Va., Huntington—Until June 6 by City Comrs., installing 1540 ft. 18-in., 4520 ft. 12-in. and 1200 ft. 10-in. tile sewers. A. B. Maupin, city engr.

Tenn., Johnson City—See "Streets and Roads."

O., Lebanon—See "Streets and Roads."

O., Steubenville—(Official)—Until May 29 by Ross Park Realty Co. for improving property by installing 4224 lin.ft. 12-in. sewer, 2172 lin.ft. 18-in. sewer, 30 manholes, 15,000 cu.yd. excavation, 4260 sq.yd. brick or concrete paving, 3250 lin.ft. curb and gutter and 14,500 sq.ft. cement walk. J. N. Leech, Steubenville, engr.

Ill., Chicago—(Official)—Until June 28 by J. McGillen, clk., sanitary dist. of Chicago, Karpen Bldg., 910 South Michigan Ave., for pumping equipment at Calumet Sewage Pumping station; advertised in this issue.

Minn., Wabash—Until May 29 by City extending sewerage and water systems, involving about 17,000 ft. tile and 3500 ft. water mains, hydrants, etc. J. F. Druar, 312 Commercial Bldg., St. Paul, engr.

Okla., Oklahoma City—Until June 5 by Bd. Comrs. for installing sewers, unreinforced monolithic concrete, reinforced-concrete pipe and vitrified segment blocks. G. C. McClure, city engr.

Prices and Contracts Awarded

(★Indicates award of contract)

Mass., Boston—Pub. Wks. Dept. received low bid installing sewerage system between Lummer St. and Belcher Lane from M. H. Loomie, 73 Gibson St., Dorchester, $31,191.

N. Y., Brooklyn—(Official)—L. H. Pounds, boro. pres., received low bids installing sewer in Ralph Ave. from J. F. Cogan Co., Woolworth Bldg., $700,239, and Concrete Material Co., $759,082. Noted May 3.

★**O., Lakewood**—City let contract installing lake outlet section of outfall sewer to American Constr. Co., West 3rd and Cuyahoga River, Cleveland, $37,700. Noted May 17.

★**O., Lewisville**—(Official)—Village let contract installing sewers to W. W. Patton, Woodsfield. Noted Apr. 26.

Sewers (Continued)

★O., **Youngstown**—(Official)—City let contract installing sewer in Lucius Ave. to R. H. McCartney, $10,564. Noted Apr. 5.

★Minn., **Albert Lea**—City let contract installing sewers to Ilstrup & Olson, Minneapolis, $10,947.

★Kan., **Beloit**—City let contract installing sanitary sewers to C. D. Reed, Clay Center, $10,874.

★Neb., **Valentine**—City let contract installing sewerage system to J. J. Dunnegan & Briggs, Shenandoah, Ia., $24,000. Noted Apr. 26.

★Mo., **Kansas City**—Bd. Pub. Wks. let contract installing sewers to Kinlen Bros., 3426 Michigan Ave., $15,200.

Cal., **Long Beach**—City received low bids installing vitr.-pipe sewers in several streets from B. Z. Wucetich, 3066 Moss Ave., Los Angeles, $29,984.

STRUCTURAL STEEL

Proposed Work

Mass., Springfield—Co. Comrs. soon lets contract bridge over Connecticut River. About $2,000,000.

Pa., **McKees Rocks**—Co. Comrs. preparing plans bridge over Ohio River between McKees Rocks and Wood Runs. About $750,000. Address Co. Clk., Pittsburgh.

Md., **Chestertown**—(Official)—Co. Comrs. received no bids for Crumpton Bridge over Chester River, about 200 ft. long. C. W. Reinhart, pres.

Ala., **Dadeville**—See "Streets and Roads."

Mich., **Manistique**—Co. Rd. Comn. plans new bridge over river to connect River and Deer Sts. About $50,000. F. N. Cookson, chn.

Ia., **Des Moines**—City soon lets contract University Ave bridge, 1000 ft. long. About $500,000, one-third of cost to be borne by Northwestern and Interurban Ry. cos. C. Kastberg, city engr.

Ia., **Macedonia**—Bd. Supervs. plan to build 100-ft. span over west branch Nishnabotna River, 33-ft. approaches. About $12,800.

Minn., Mankato—City voted $50,000 bonds to build bridges. H. F. Blomquist, city engr.

Minn., Minneapolis—Co. Comrs. plan to issue $40,000 bonds to repair Cedar Ave. bridge and grade surface approaches.

Minn., Wheaton—See "Streets and Roads."

Ariz., **Kingman**—See "Streets and Roads."

Wash., Spokane—M. Macartney, city engr., prepared plans steel bridge on Post St. About $260,000 to $300,000.

B. C., **Vancouver**—Council plans to build bridge to replace old Capilano Bridge. J. B. Springford, clk.

Bids Desired

Illinois—See "Streets and Roads."

Minn., New Ulm—Until June 8 by Brown and Renville Cos. for bridge over Minnesota River, to connect state roads between 2 counties.

S. D., **Miller**—Until June 5 by County for repairing and building bridges, abutments and approaches required for 6 months. A. C. Sweetland, co. aud.

S. D., **Oacoma**—Until June 5 by County for bridges, approaches, abutments and repairs required for 6 months. K. McKenzie, co. aud.

S. D., **Parker**—Until June 5 by County for bridges, abutments, approaches and repairs required for 3 months. V. B. Clikeman, co. aud.

Wash., Mt. Vernon—Until June 5 by W. R. Arges, co. aud., rebuilding Mt. Vernon bridge over Skagit River, 220-ft. steel span and piers. About $30,000. W. E. Costello, co. engr.

Ore., **Coquille**—(Official)—Until June 7 by Co. Court for bridge over South Fork of Coquille River, 180-ft. steel span with alternate proposal on wood, concrete piers, timber approaches and concrete viaduct over tracks Southern Pacific R.R. J. Watson, co. judge.

Cal., **Fairfield**—Until June 4 by G. G. Halliday, co. clk., building Pleasant Valley bridge.

Ont., **Sudbury**—Until May 28 by W. J. Ross, clk. and treas., for material and building 500,000-gal. steel stand pipe. H. H. Martindale, supt. Noted Apr. 26.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Mass., Boston**—City let contract rebuilding Brookline Ave. Bridge to M. Meehan, 24 Hopedale St., Jamaica Plain, $46,000.

N. Y., **New York**—(Official)—Pub. Serv. Comn., 120 Bway., received low bids, May 16, furnishing and erecting structural steel for inspection sheds in 180th and 239th St. yards of Route No. 18, White Plains Rapid Transit R.R., from McClintic-Marshall Co., 13 Park Row, $317,370; American Bridge Co., 30 Church St., $336,240; Post & McCord, 101 Park Ave., $344,646. Noted May 10.

★**N. J., Cranford**—Bd. Freeholders let contract bridge over Rahway River on Eastman St. to Dover Boiler Works, 90 East Dickenson St., $18,990.

★Pa., **Uniontown**—County let contract superstructures and floors of bridges over Dunlap Creek and Middle Run to Farris Engr. Co., Empire Bldg., Pittsburgh.

★La., **Baton Rouge**—East Baton Rouge and Livingston Parishes let contract steel bridge over Amite River to Virginia Bridge and Iron Co., Roanoke, Va., $11,200.

★**Ind., Macy**—See "Streets and Roads."

★**N. S., Halifax**—Dept. Railways and Canals let contract 2500 tons structural steel for 2 piers and pier sheds to be constructed in harbor to Dominion Bridge Co., Imperial Life Bldg., Toronto; steel to be furnished by Bethlehem Steel Co., 1st Natl. Bank Bldg., Pittsburgh.

REINFORCED CONCRETE

Proposed Work

Mass., Springfield—United Electric Light Co. plans concrete coal pocket on Front St. About $50,000. W. L. Mulligan, 73 State St., mgr.

Pa. **Pittsburgh**—H. K. Leitch, 3601 Terrace St., plans 4-story, rein.-con. warehouse and sales building, Roup Ave. About $64,000.

N. C., Roanoke Rapids—Roanoke Mills Co. soon lets contract, 158 x 542-ft. concrete mill. About $100,000.

O., **Dayton**—Citizens Motor Co. acquired site at Ludlow and Franklin Sts., and plans 2-story, concrete plant. About $50,000.

Okla., Ada—County making soundings in South Canadian River here and preparing plans for 1200-ft. rein.con. highway bridge. J. A. Jackson, co. engr.

Okla., Waurika—Co. rejected bids for concrete bridges. P. Emery, Topeka, Kan., engr. Noted Apr. 12.

Ariz., Flagstaff—D. Babbitt and T. Reardon having plans prepared by A. C. Martin, archt., Higgins Bldg., Los Angeles, for rein. con. plant. About $150,000.

Wash., Raymond—City voted $10,000 bonds to build rein.-con. reservoir.

Cal., Coalinga—(Official)—State Water Comn., Sacramento, granted permit to City Council to appropriate 3 cu.ft. per second of waters of Waltham Creek, Fresno Co., for municipal purposes, by means of submerged concrete dam in creek and pipe line 8.6 mi. long. About $50,000.

Cal., Sacramento—Bd. Educ. rejected bids rein.-con. school, 17th and F Sts. New bids. Noted Apr. 5.

Cal., San Francisco—University of California having plans prepared by W. Polk & Co., archts., Hobart Bldg., for 7-story, rein.-con. building on Sutter St.

Bids Desired

Mass., Lawrence—(Official)—Until May 29 by Mayor and City Council for 2 rein.-con. bridges over Merrimack River; advertised in this issue.

Tenn., Johnson City—See "Streets and Roads."

O., **Dennison**—See New Phila.

O., **New Phila.**—(Official)—Until June 11 by Co. Comrs. for rein.-con. beam bridge over Beaverdam Creek on Beaver Ave., and rein.-con. arch bridge over Little Stillwater Creek, East Center St., Dennison. R. H. Nussdorfer aud.

Kan., Winfield—Until June 6 by County rein.-con. bridge over Dutch Creek, Dunbar Ford, and masonry bridge over Grouse Creek, From Ford. F. V. Brown, clk.

Wash., Olympia—Until June 4 by State Highway Comn. for rein.-con. viaduct over Northern Pacific R.R. tracks at Nisqually. About $35,000.

Ore., **Eugene**—(Official)—Until May 31 by Co. Comrs. building bridges as follows: Gallagher bridge over slough north of Santa Clara; Stanford bridge over Mohawk River, 85-ft. span, 165-ft. approaches; Paschelke bridge over creek, 64-ft. span, 45-ft. approaches; Shortridge bridge, 100-ft. span, 135-ft. approach, and rein.-con. culvert with 4-ft. span over mill-race.

Cal., **Hollister**—Until June 4 by E. Dowdy, co. clk., for concrete bridge over Carneros Creek, Rocks Rd.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Vt., Bennington**—(Official)—Black Cat Textile Co. let contract 5-story, 84x286-ft. rein.-con. textile mill to Turner Constr. Co., 244 Madison Ave., New York City.

★**Mass., Boston**—(Charlestown)—Revere Sugar Refinery Co., 131 State St., Boston, let contract 9-story concrete warehouse and engine house to Turner Constr. Co., 45 Milk St., Boston.

★Pa., **Hazleton**—Duplan Silk Co., East Diamond Ave., let contract 5-story rein.-con. mill to F. W. Mark Constr. Co., Financial Bldg., Phila., $50,000. Noted Apr. 26.

★Pa., **Phila.**—Phila. Paper Mfg. Co., Nixon St., let contract rein.-con. factory to Barclay, White & Co., 1713 Sansom St., $75,000.

★Pa., **Snydertown**—Philadelphia & Reading R.R. let contract rein.-con. bridge over Lick Run to W. Taby & Co., Shamokin.

★**Ind., Richmond**—Co. Comrs. let contract rein.-con. bridge over Whitewater River on Main St. to I. E. Smith, Richmond, $169,990. Noted Apr. 26.

★**Mich., Detroit**—Detroit Refrigerating Co. let contract rein.-con. storage building, 119 Lafferty St., to MacLean Constr. Co., Lafferty and Wabash Sts., $320,000.

★**Mich., Detroit**—Swift & Co., 899-909 Michigan St., let contract 3-story, rein.-con. packing plant, to G. Schantz Engr. Co., 818 Wabash Ave., $50,000.

★**Minn., Minneapolis**—City plans to build additions to filtration plant by day labor, plans include 16 rein.-con. and brick filter units, 4,000,000 gal. capacity each. F. W. Cappelen, city engr.

★**Kan., Topeka**—Golden Belt Grain & Elevator Co. let contract 250,000-bu. rein.-con. grain elevator to Lehrack Contr. & Engr. Co., 725 Gloyd Bldg., Kansas City, Mo., $75,000. Noted Apr. 19.

★**Mont., Great Falls**—Co. let contract building concrete bridges during year to Grant Smith & Co., 1515 Pioneer Bldg., St. Paul.

★**Utah, Salt Lake City**—International Harvester Co., 6 West 2nd St., let contract rein.-con. warehouse, 1st South St., to Redman Fireproof Storage Co., 160 South Main St. About $50,000.

★**Nev., Fallon**—Bd. Educ. let contract rein.-con. high school to Caldwell & Sons, San Francisco. About $77,000. Noted Apr. 12.

★**Ore., Portland**—Frazier & McLean, 200 5th Ave., let contract rein.-con. garage, 5th and Taylor Sts., to Parker & Banfield, Columbus Bldg., $50,000. Noted May 3.

★**Cal., San Diego**—San Dieguito Mutual Water Co. let contract rein.-con. dams and conduits, and 5 mi. concrete flume and galvanized metal flume at Del Mar and San Dieguito damsite, to Bent Bros., 825 Central Bldg., Los Angeles. About $261,696. Noted May 10.

★**Ont., London**—Hunt Bros., Ltd., Talbot St., let contract 6-story, rein.-con. flour mill to G. H. Archibald, 23 Jordan St., Toronto, $75,000.

STREETS AND ROADS

Proposed Work

N. H., Claremont—F. E. Everett, state highway comr., rejected bids paving macadam roads. About $30,000.

N. J., Newark—Bd. Freeholders plans to spend $600,000 to build 9 new roads.

N. J., Washington—Twp. Com. received no bids macadam road from Stewartsville to Bloomsbury, 14,942 sq.yd. Work will be readvertised.

Pa., **Williamsport**—(Official)—County election June 5 to vote on $30,000 bonds to join state highway dept. in improving highways in county.

Del., Georgetown—Co. and Highway Comrs. plan to build new roads in county. About $1,000,000. A. Upham, co. engr.

Va., Gate City—County voted $45,000 bonds to build roads, Powell Dist.

Va., Stanardsville—County plans to build 2-mi. road. E. D. Dunette, Celt, comr. roads.

W. Va., Broad Oaks—City election June 5 to vote on $10,000 bonds to pave, grade and curb portions Buckhannon and Howard Sts. J. N. Craddock, mayor.

W. Va., Huntington—City comrs. soon lets contract paving portion Kanawha Ave., 11th, 5th and other streets. A. B. Maupin, city engr.

W. Va., Sutton—County plans to improve roads. G. C. Rexwood, clk.

W. Va., Williamson—County voted $1,000,000 bonds to build roads.

N. C., Boone—County voted $300,000 bonds to build roads.

N. C., Mocksville—City plans to build 4-mi. concrete sidewalks. Address J. P. Green.

S. C., Easley—Dept. Pub. Wks. plans to spend $50,000 to pave streets and sidewalks. P. M. Taylor, comr. and clk.

Ga., Griffin—City plans to spend $135,000 to improve streets. K. P. Bridges, clk. and treas.

Fla., Bartow—Polk Co. Special Road & Bridge Dist. No. 2 voted $150,000 bonds to build hard surface roads. A. T. Mann, chn.

Fla., Kissimmee—Co. election June 16 to vote on $100,000 bonds to build road from Loughman to Kissimmee, Dists. Nos. 1 and 2.

Fla., Miami—City plans to spend $300,000 to improve streets. C. Murray, city engr.

Fla., Orlando—Co. Comrs. plan election to vote on bonds to build 40-mi. clay roads.

Ala., Dadeville—County voted $245,000 bonds to build roads and bridges.

Ala., Enterprise—City soon receives bids paving 14,000 sq.yd. streets and building sidewalks. A. Pew, 500 Forsythe Theater Bldg., Atlanta, engr.

Miss., New Augusta—County soon lets contract building 3 roads. H. W. Bell, co. engr.

Streets and Roads (Continued)

Miss., Vaiden—County voted bonds to build roads in Beat 5.

Tenn., Springfield—County election June 9 to vote on $150,000 bonds to improve roads. Noted May 10.

Ky., Bedford—County plans to build 12-mi. state aid macadam roads and 4-mi. country road. W. L. Harman, co. engr.

Ky., Munfordville—County plans to build 12 mi. on Carico, 4 mi. on Edmonton and 4 mi. on Jackson Highway. B. F. Bacon, co. engr.

O., Ashland—Council plans to improve portions East 4th and Virginia Sts. R. R. Cona, city engr.

O., Cincinnati—City plans to pave, grade, and curb portion Turrill St., asphalt, also install necessary drains and inlets and lay 6-in. water main. C. E. Martin, pres. council.

O., Hamilton—(Official)—Bd. Comrs. to sell $115,000 bonds May 31 to pay county's share toward improving portions Hamilton-Middletown Rd. W. W. Crawford, clk.

O., Medina—County plans to build 4¾-mi. cement road and 3½-mi. brick road. W. Hibbing, co. engr.

O., Pomeroy—County plans to build 4-mi. brick road. L. J. Burns, co. engr.

O., Ravenna—County to sell $102,000 bonds June 11 to improve I.C.H. No. 60; No. 18, Sect. V and No. 87, Sect. N. M. J. Kelly, co. aud.

O., Toledo—Council plans to improve Steel St. H. C. McClure, city engr.

O., Wauseon—County sold $28,000 bonds to improve roads.

Mich., Adrian—County plans to improve 4½-mi. road in Dover Twp., 6-mi. Fairfield Twp. and 6-mi. Ogden Twp. J. L. Richards, 154 Park St., co. surv.

Mich., Allegan—County plans to spend $50,000 to build permanent state roads. L. McLoud, Bradley, comr.

Mich., Bessemer—County voted $25,000 bonds to build roads.

Mich., Detroit—Co. voted $600,000 bonds to improve roads. Noted Apr. 19.

Ill., Edwardsville—W. E. Howden, co. supt. highways, soon lets contract for concrete paving. About $50,000.

Ill., Quincy—City estimates cost paving Grove St., brick, at $30,105.

Wis., Madison—State Highway Comn. completed tentative plans for 5000 mi. trunk highway to cross every important town and city in state. A. R. Hirst, highway comr.

Wis., Menomonie—Co. plans to spend $30,000 to grade and surface roads. F. Pieper, clk.

Wis., Phillips—County plans to build 25-mi. highways. F. Henry, co. surv.

Wis., Point Washington—County plans to build macadam roads. J. Bichler, clk.

Wis., Racine—Co. Comrs. plan to spend $14,000 to improve Sheridan Dr. J. J. Patrict, co. aud.

Wis., Rhinelander—County voted $140,000 bonds to build and improve roads. J. J. Verage, clk.

Wis., Shawano—County plans to grade and surface roads. About $50,000. O. C. Rollman, co. engr.

Ia., Creston—Council plans to build 36,000 yd. paving and 32,000 ft. curbing. T. D. DeLay, city engr.

Ia., Iowa City—County plans to pave road from Iowa City to Clear Lake. About $110,000; government to appropriate $65,000 toward cost.

Ia., Ottumwa—County plans to improve 24-mi. road. About $35,000. H. E. Cook, co. engr.

Minn., Atkin—State appropriated $20,000 to gravel Aitken-Hill City Rd. and portion Duluth-Moorhead Rd., Atkin Co.

Minn., Faribault—State to appropriate $16,000 to build roads in Rice Co. during year. F. M. Kaiseratt, co. aud.

Minn., Moorhead—State to appropriate $14,325 to build roads in Clay Co. during year. A. Houglum, co. aud.

Minn., Wheaton—County voted $20,000 bonds to build roads and bridges.

Neb., Seward—County plans to grade 200-mi. road. J. R. Roberts, clk.

N. D., Grand Forks—State to appropriate $25,000 to build roads in Grand Forks Co. during year.

Mont., Helena—Council plans to pave Dist. No. 112. About $14,000.

Mont., Livingston—County plans to spend $60,000 to build highways between Livingston and Gardiner. C. A. Vurg, clk.

Mo., Rolla—County plans to issue $300,000 bonds to build roads. W. H. Breuer, M.D., chn. rd. comn.

Ark., Little Rock—State Highway Dept. had plans prepared by H. R. Carter, highway engr., for highway work as follows: graveling road from Marvell to Lee Co. line, cost, $75,000; macadam road from Walnut Ridge to Egypt, $60,000; macadam road, asphalt finish, from DeVall's Bluff south, $20,000; macadam road from Wynee east through Cross toward Memphis, $120,000.

Ark., Pocahontas—County formed Rd. Dist. No. 2 and plans to build 35-mi. macadam road from Pocahontas to Missouri state line. About $125,000. J. D. Wells, comr.

Tex., Goesbeck—County voted $100,000 bonds to build roads.

Tex., Jefferson—County plans to grade 14-mi. road. J. V. Brashear, co. surv.

Tex., Menard—County plans to improve roads. H. J. Decker, comr.

Okla., Henryetta—City plans to pave 5th Ave.

Okla., Okmulgee—City plans to pave portion 8th St.

Okla., Prague—County election June 5 to vote on $25,000 bonds to build roads in Creek Twp.

Idaho, Grangerville—City retained Sawyer Bros., engrs., White Bldg., Seattle and Lindelle Bldg., Spokane, to prepare plans for paving business district. About $16,000.

Ariz., Holbrook—Bd. Supervs. to sell $160,000 bonds June 11 to build highways. R. S. Temple, co. clk.

Ariz., Kingman—County plans election to vote on $200,000 bonds to build roads, bridges, culverts, etc.

Ariz., Tombstone—Bd. Supervs. plans election to vote on $1,000,000 bonds to improve roads, including paving highway between Bisbee and Douglas on New Mexico state line, also highway from Bisbee through Tombstone to Pima co. line

Wash., Bellingham—City soon receives bids paving portions Grand Ave. and Utter St. about $16,000. W. H. North, city engr. Noted Apr. 19.

Wash., Olympia—State plans to build 12-mi. road near Blewett. H. G. Porake, asst. state highway comr.

Wash., Shelton—County rejected bids building permanent highway No. 4. New bids. A. L. Ward, co. engr. Noted Apr. 26.

Wash., South Bend—County election June 12 to vote on $274,000 bonds to build highways in Willapa Valley.

Wash., South Bend—County plans to grade 15-mi. roads. C. Henry, co. engr.

Wash., Tacoma—Tacoma Ry. & Power Co., 1319 A St., plans to repave between tracks on B'way., St. Helens and 6th Ave. About $100,000. O. G. O. Snider, pur. agt.

Ore., Fossil—State Highway Dept. making surveys to improve roads. County voted $80,000 for project.

Ore., Salem—State election in June to vote on $6,000,000 bonds to build and improve roads.

Cal., Los Angeles—See "Excavation and Dredging."

Cal., Modesto—City election soon to vote on $40,000 bonds to pave streets, $30,000 for storm sewers and $5000 to extend water system.

Cal., Pasadena—Bd. Pub. Wks. plans to pave Holley, Green and Glenarm Sts., Raymond Ave., and Arden Rd. T. D. Allen, comr.

N. S., Truro—Town plans to spend $35,000 to build concrete sidewalks. H. Dougall, clk. and treas.

Ont., Ottawa—Dept. Pub. Wks. receiving bids in June paving streets, concrete. About $16,000.

Ont., Toronto—A. Harris, wks. comr., soon lets contract paving in western section of city. About $445,000.

Man., Winnipeg—Dept. Pub. Wks. plans to build roads. About $500,000. A. McGillivray, highway comr.

Sask., Regina—City plans to pave lanes. About $30,000. D. A. McCannel, engr.

B. C., Cowichan—Provincial Government appropriated $16,700 to build roads.

B. C., Surrey—Council plans to spend $23,450 to build and improve roads.

Bids Desired

Conn., Hartford—(Official)—Until May 31 by C. J. Bennett, state highway comr., West End, State Capitol, for building roads in various townships; advertised in this issue.

Bids Desired

N. Y., Long Island City—Until May 28 by M. E. Connolly, boro. pres., Queens Subway Bldg., regulating, grading, setting curb and laying sidewalks on portion 4th St., 2nd Ward; completing abandoned contract executed by W. J. Horle, July 20, 1916, regulating, grading, curbing and laying sidewalks in portions 38th and Woodbine Sts., 2nd Ward; regulating and grading gutter spaces and laying sidewalks on portions 78th St. and 88th Ave.

N. Y., Long Island City—Until May 31 by M. E. Connolly, boro. pres., Queens Subway Bldg., regulating, grading, paving and laying sidewalks where necessary on portions of Review and 6th Aves. asphalt block on concrete foundation; Grove and Crescent Sts., granite block on concrete foundation.

N. Y., New York—Until May 29 by D. Mathewson, boro. pres., completing contract which was abandoned by L. C. Manuell on Mar. 26, 1917, for regulating, grading and regrading, setting and resetting curb, laying and relaying sidewalks and crosswalks, building guard [illegible] and repaving with granite blocks on sand [illegible] portion East 149th St.; regulating, grading and setting curb stones, flagging sidewalks, laying crosswalks, building approaches and fences in portion East 203rd St.; repairing with sheet asphalt and redressed granite [illegible] on concrete foundation portions East 156th St., Bathgate and Tinton Aves.; paving with bituminous concrete on cement concrete foundation portion Valentine Ave., Bronx boro.

N. Y., New York—Until May 28 by M. M. Marks, boro. pres., resurfacing by surface heater method asphalt pavements on portions of 90th, 94th, 95th, 97th, 100th, 108th, 115th, 117th, 119th, 120th, 124th, 137th and 144th Sts.; regulating and repaving with granite (durax) block pavement on concrete foundation portion Broome St.; regulating and paving with granite block on sand foundation portion of Park Terrace West and Academy St.; regulating and repaving with sheet asphalt pavement on concrete foundation portion 86th St.; regulating and repaving with wood block on concrete foundation portion Jefferson St.; regulating and repaving with bituminous concrete on concrete foundation portion 217th St. and Park Terrace West; regulating and repaving with Portland cement concrete portion Central Park Transverse No. 4.

N. J., Newark—Until May 31 by Bd. Supervs., furnishing and laying non-asphaltic oil on roads. F. A. Reimer, co. engr.

Va., Covington—(Official)—Until June 4 by Mayor and Council for street improvement and sewer construction; advertised in this issue.

W. Va., Fairmont—Until June 14 by county building 15 mi. improved roads and streets, Grant Dist. A. G. Martin, clk.

Ala., Bay Minette—(Official)—Until June 6 by Co. Comrs. improving 18-mi. highway from Robertsdale to Nunnez Ferry. L. Glendinning, rd. comr.

Tenn., Johnson City—Until June 5 by Mayor and Bd. Aldermen for paving West Market St., Dist. No. 21; Pine St., Dist. 20; Roan St. Dist. 23; asphalt, asphaltic concrete, cement concrete or tarvia, involving 25,037 sq.yd. paving, 15,497 ft. curb and gutter, 12,887 ft. vitr. sewers, 17 manholes, also rein.-con. bridge, etc.

O., Lancaster—Until May 29 by O. E. Myer, clk. bd. comrs., for improving Lancaster Rd. and building Brush Water Brake Rd.

O., Lebanon—(Official)—Until May 29 by M. E. Gustin, village clk., for improving portion Mulberry St., involving 4889 sq. yd. brick pavement, 1732 lin.ft. cement curbing, 393 lin.ft. protection curbing, 2291 lin.ft. 12-, 15- and 20-in. sewer pipe, 4 manholes, 2 special catch-basins, 10 inlets.

O., Napoleon—Until May 29 by J. E. Vogel, secy. of Henry and Defiance Co. Rd. Comrs., for building joint county road.

O., Springfield—Until June 1 by City improving portion North St. M. J. Bahin, city engr.

O., Steubenville—See "Sewers."

O., Wooster—(Official)—Until June 4 by Co. Comrs. building Rittman-Sterling Rd., monolithic brick, Wooster-Burbank Rd., concrete or monolithic brick, Burton City Eastern Rd., 14-ft. water-bound macadam. W. Bixler, comr.

Illinois—(Official)—Until May 31 by State Highway Comn., Springfield, for building roads and bridges in various counties as follows: 6700-ft. gravel road, Sect. E, Cumberland Co., cost $6372; 8 bridges, Sect. C, Hardin Co., $1240; 50,000-ft. oiled roads, Sect. D, Henry Co., $23,816; 7600 ft. earth roads, Sect. L, McDonough Co., $4162; 5900 ft. earth roads, Sect. C, Jefferson Co., $9691.

Ia., Forest City—Until June 1 C. K. Nelson, co. audr., for portion of Winnebago Co. Road System. O. N. Gjellefald, co. engr.

Minn., Alexandria—Until May 29 by County for following road jobs: Nos. 1702, 1703, 1706, 1708, 1709 and 1713, involving 1.81-mi. acres clearing and grubbing and 24,729 cu.yd. excavation. C. H. Jensen, co. aud.

Minn., Buhl—Until May 28 by Village paving 10 blocks, concrete and bitulithic. About $40,000. G. R. Reed, clk.

Minn., Crookston—See "Excavation and Dredging."

Tex., Dallas—(Official)—Until May 30 by W. W. Peevey, city secy. for 57,848.8 sq.yd. bituminous pavement on old macadam base and concrete base 1634 lin.ft. curb and gutter, 1936 lin.ft. curb and gutter removed. About $150,000. H. Moseley, city engr.

Okla., Coalgate—Until June 5 by Co. Comrs. for grading and surfacing 20-mi. road, with necessary bridges, Phillips Twp. Hess & Skinner and Peckham & Wilkins, Dallas, engrs.

Idaho, Lewiston—(Official)—Until Aug. 13 by C. F. Leland, city clk., for 95,850 sq.ft. 6-in. concrete sidewalk, 21,605 lin.ft. concrete curb and 23,710 cu.yd. excavation, Improv. Dist. No. 11. About $26,100. D. C. Wrighter, city engr.

Washington—Until June 4 by State Highway Dept., Olympia, grading and surfacing Pacific Highway, east of Olympia and clearing, grading and surfacing 5½ mi. Pacific Highway from Renton to Kent.

Streets and Roads (Continued)

Wash., Seattle—Until June 10 by Co. Comrs. paving Houghton-Bellevue Rd. About $75,000 to $125,000. S. J. Humes, engr.

Cal., Quincy—Until June 1 by F. R. Young, co. clk., for building highway in Beckwith Rd. Dist.

Cal., Visalia—Until June 6 by County, building 50-mi. concrete highways. Noted Apr. 26.

Cal., Woodland—Until June 4 by N. Chambers, city clk., improving Court St.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Mass., Boston**—Highway Comrs. let contract highway from Northampton to Chesterfield to Cordner & Montague, 433 Bay St., Springfield.

★**Mass., Boston**—Massachusetts Highway Comn. let contract surfacing portion tar road in Northampton-Easthampton to D. O'Connell & Son, 406 Hamden St., Holyoke.

★**Mass., Cambridge**—City let contract repairing various streets, bitulithic, to Warren Bros., 142 Berkley St., Boston.

N. Y., Long Island City—(Official)—M. E. Connolly, boro. pres., received low bids regulating, grading and curbing portion Madison St. from H. Cordes, 243 Moffat St., Brooklyn, $11,180; J. McAvoy, $12,745; E. W. Fitzpatrick, 128 3rd Ave., Astoria, $12,700. Noted May 10.

N. Y., Watervliet—(Official)—Bd. Estimate and Apportionment received low bids paving 6th Ave. and 15th St. from T. F. Shaughnessy, 493 Western Ave., Albany, $56,388, and W. T. Beban & Son, Troy, $60,699. Noted Apr. 26.

N. J., Jersey City—Bd. Freeholders received low bid improving Newark Turnpike with granite block from W. J. Coughlin, 665 Newark Ave., Jersey City, $547,857. Noted May 4.

N. J., Jersey City—(Official)—Bd. Comrs. received low bids paving, (a) 1st portion of Newark Ave., (b) 2nd portion Newark Ave., (c) Jackson Ave., (d) Pavonia Ave., (e) Central Ave., from R. Sangiovanni, 78 Hoyt St., (a) 98⅞%, (b) 97⅞%, (d) 99⅛%; Van Keuren Contr. Co., Passaic Ave., (a) 100%, (b) 100%, (c) 98%, (d) 100%, (e) 106%; O'Reilly Contr. Co., 90 Neptune Ave., (d) 95%. Noted May 3.

★**N. J., Orange**—City let contract paving Main St., wood block, to C. Ippolito, 252 Main St., $90,225.

★**N. J., Trenton**—City let contract paving portion Pennington Ave. to A. Dilucia, 55 Butler St., $13,000; paving 3 streets to C. A. Reid & Co., 623 Monmouth St., $22,000.

★**Pa., Phila.**—Pennsylvania R.R. let contract paving Midvale St. to Manwaring & Cummins, 5622 Germantown Ave., $18,000.

★**Pa., York**—City let contract paving 9480 sq.yd. to General Supply & Constr. Co., 10 West Market St., $10,000; 5300 sq.yd. repaving North Greece St. and 2031 sq.yd. alley paving to A. H. Kraft, 511 South Water St., $10,000 and $2500, respectively.

Md. Chestertown—(Official)—Co. Comrs. received low bids building state-aid roads as follows: (a) Massey to Ireland Corner, (b) 2.21 mi. Heborns Station to State Rd., (c) 0.58 mi through Betterton, (d) 0.75 mi. through Still Pond, from Junietta Co., Empire Bldg., Phila., (a) $52,311, (b) $35,341, (c) $11,297, (d) $12794; Burgess & Dorrell, Scottsville, Va., (a) $52,149, (b) $36,693; E. R. Sytton, 603 16th St., Phila., (b) $41,431, (c) $12,352. Noted May 10.

★**Md., Hagerstown**—Co. Comrs. let contract building Mill Point-Lappans Rd. to M. J. Grove Lime Co., Lime Kiln, $33,195.

★**Va., Franklin**—(Official)—City let contract improving streets to Central Constr. and Supply Co., Lyric Bldg., 9th and Broad Sts. Richmond. Noted Apr. 5.

★**Va., Lynchburg**—State Highway Comn. let contract improving and macadamizing portion Link Rd. to S. B. Bennington, $26,171.

W. Va., Beckley—Co. Comrs. let contract building 70 mi. roads to Doggett & Dowdy. Noted Apr. 19.

★**Ga., Barnesville**—City let contract paving 14,000 sq.yd. streets, concrete, to Preston-Small Co., Macon, Ga.; 4 mi. sidewalks, concrete, to Lakeland Improv. Co., Lakeland, Fla. Total cost, $45,000. Noted Apr. 19.

★**Ala., Linden**—County let contract grading and graveling 3-mi. road to D. R. Cook & Co., Selma, $10,000.

★**Miss., Indiana**—Co. Comrs. let contract building roads to Inland Constr. Co., Chandler, Okla., $200,000 available. Noted Apr. 26.

★**Miss., Leakesville**—County let contract building Greene Rd. to M. H. Thompson, Gulfport, $100,000.

★**O., Cleveland**—S. H. Kleinman, Garfield Bldg., let contract grading to C. Wilms, 12300 Oakfield Ave.; building sidewalks to Cleveland Stone Co., Leader-News Bldg. Total cost, $10,000.

★**O., Cleveland Heights (Warrensburg P. O.)**—City let contract improving portion Bradford Rd. to Pace Bros., 608 Marshall Bldg., Cleveland, $19,500.

★**O., East Cleveland**—City let contract paving, curbing, grading and draining various streets to Rieley Bros., 348 The Arcade, and Gould & Maybach, 823 East 150th St., $22,643 and $22,122, respectively.

★**O., Lockland**—City let contract improving Wayne Ave. to G. Murdock, 2531 Melrose St., Norwood, $22,653.

★**O., Lorain**—City let contract brick or asphalt paving and draining on various streets to Ohio Eng. Co., 647 B'way.

★**O., Napolean**—County let contract grading and macadamizing Overly Rd. to J. A. Westrick, Holgate, $11,991.

★**O., Willshire**—(Official)—Village let contract paving State St. to G. H. Hefner & Son, Celina, $21,000. Noted May 10.

★**O., Zanesville**—City let contract paving, grading and curbing portion Prospect Ave. to Bolin & Howell, $15,072.

★**Ind., Macy**—Co. let contract building roads and bridges to F. J. Williams & Son, Winamac, $29,000.

★**Ind., Spencer**—County let contract building 3-mi. crushed stone road to L. P. Harpe, Worthington, $10,006.

★**Ind., Terre Haute**—(Official)—County let contract grading, draining and paving roads to Foulkes Contr. Co., 705 Ohio St., $41,185.

★**Ill., Bloomington**—City let contract paving portion Main St., brick, to I. D. Lain, $18,767.

★**Ill., Champaign**—City let contract paving North Neil St. to J. W. Stipes, 108 North Walnut St.

Ill., Chicago—County received low bids paving roads, Northfield and New Trier Twps., from J. P. Casey & Co., 58 West Washington St., $70,946; building roads Wheeling and Northfield Twps., Ward & Son, Oak Glen, $93,400.

★**Ill., Ottawa**—Bd. Local Impvt. let contract improving Lafayette, Jefferson, Jackson and Forest Sts. to J. J. Leix, 322 West Main St.

★**Ill., Quincy**—Co. let contract macadam road to Cameron, Joyce & Co., Keokuk, $24,464.

★**S. D., Sioux City**—City let contract paving portion 3rd Ave. and 8th St. to Western Constr. Co., Phœnix Bldg., Iowa City.

★**Ark., Texarkana**—County let contract building 70 mi. highways to Womack Constr. Co., Sherman, Tex., $489,257. Noted Apr. 26.

Wash., Olympia—(Official)—Highway Bd. received low bids paving Pend Orielle Highway, Spokane and Pend Oreille Cos., Station 0-00 to 1739-00, Newport to Mead, from Spokane Bitulithic Paving Co., Spokane, $17,485; Spokane Asphalt Macadam Paving Co., Hutton Bldg., $25,599.

★**Ore., Coquille**—County let contract Bandon-Curry Rd. to Haguist & Bjorkquist, Marshfield, $49,665; Coquille-Marshfield Rd. to Elliott Contr. Co., McKay Bldg., Portland, $87,772. Noted Apr. 26.

★**Cal., Auburn**—City let contract paving several streets to Tibbitts-Pacific Co., 16 California St., San Francisco, $40,891.

★**Cal., Bakersfield**—Bd. Supervs. let contract grading, paving and resurfacing 7.06 mi. and building bridges and culverts on Div. 8, Sect. 2, Old River-Maricope Co. Highway to J. D. Marsh, Box 211, Bakersfield, $58,859. Noted Apr. 26.

★**Que., Quebec**—City let contract asphaltic concrete pavement between Ste Foye Rd. and St. Augustin to Laganiere, Houde & Co., Grondins, $145,000.

★**Que., St. Malachie d'Ormstown**—(Official)—W. G. Gerrigle, secy.-treas., let contracts macadamizing roads to O'Conner Bros., Huntington, $26,670, and Howick Paving Corp., Ltd., Howick, $17,800. Noted May 3.

★**Ont., Ottawa**—City let contract paving Gloucester St to T. G. Brigham, 85 Duke St., $20,000.

★**Ont., Toronto**—Bd. Control let contract paving portion Greenwood Ave., asphalt, to Godson Contr. Co., Ltd., Manning Chambers, $31,418.

RAILWAYS—STEAM AND ELECTRIC

Proposed Work

Connecticut—Waterbury & Bristol Tramway is having surveys made by W. G. Smith, 51 Leavenworth St., Waterbury, for line from Bristol to Waterbury. Work will begin about August. F. N. Manross, Center Forestville, Bristol, pres. J. H. Cassidy, 44 Bank St., Waterbury, secy.

New Jersey—See "Industrial Works" under "Elizabeth, N. J."

Pennsylvania—Lehigh & New England R.R. will let contract about July 1 for line from Bethlehem to Allentown, thence along east bank of Lehigh River, to connect with Catasauqua branch at Catasauqua, 8 mi. Plans include 4 or 5 highway bridges. R. H. Wilbur, 437 Chestnut St., Phila., vice pres. and genl. mgr. Noted May 3.

Delaware—Lindes & Co., Franklin Bank Bldg., Phila., represented by J. M. Satterfield, atty. at law, Dover, plans trolley road from Wilmington to lower boundary of state, 90 mi. Proposed road will run parallel to Pennsylvania R.R. If consent is granted by New Castle Co. authorities company will be incorporated under laws of State of Delaware.

Georgia—Atlanta, Birmingham & Atlantic Ry. plans extension from Waycross to Jacksonville, about 75 mi., for which surveys are being made. L. L. Beall, 30 Columbia Ave., Atlanta, ch. engr.

Florida—Alabama, Florida & Southern R.R. having surveys made extension from Malone to Grenwood, 6 mi. W. S. Wilson, Malone, vice pres. and genl. mgr.

Florida—Tamiami Trail Corp. will apply for charter for Tamiami Ry. to build line from Miami westward, northwest and then southwest to Chevelier Bay. Temporary office at Miami. J. F. Jaudon, pres. G. F. Cook, secy. Noted May 3.

Ohio—Ohio Electric Ry. plans extending line from Cincinnati to Defiance, where passenger and freight station may be erected. A. Benham, Interurban Bldg., Springfield, genl. mgr.

Ohio—Youngstown & Suburban Ry. having plans prepared for double-tracking lines; also extension from Columbianna to East Palestine, 8 mi. A. W. Hartford, Youngstown, genl. mgr.

Kansas—Kansas City Northwestern R.R., 901 Main St., Kansas City, recently organized with $1,000,000 capital stock, will take over route of old Kansas City Northwestern R.R. surveyed number of years ago. Line will run from Kansas City through Wyandotte, Leavenworth, Jefferson, Jackson and Nemaha Cos. to Beatrice, Neb. L. S. Cass, R. A. Malone, E. H. Campbell, F. Schiel, Kansas City, and W. W. Hooper, Leavenworth, incorporators.

Kansas—Southwest Missouri R.R. plans to extend line from Baxter Springs to Oklahoma 7 mi., being continuation of extension from Galena Kan., to Baxter Springs. E. J. Pratt, Webb City, Mo., supt. and pur. agt.

Kansas—Union Pacific R.R. completed plans 20 mi. trackage and 2 depots on Pawne Flats at Ft. Riley. R. L. Huntley, 15th and Dodge Sts., Omaha, Neb., ch. engr.

South Dakota—North Star Electric Ry., recently organized, plans electric railway from Bellefourche, S. D., to Dickinson, N. D., via Scranton, N. D. Plans include power plant. F. E. Duba, interested.

Montana—Chicago, Milwaukee & St. Paul Ry. plans extending Blackfoot Valley extension as far as Cottonwood during year. C. F. Loweth, Railway Exchange Bldg., Chicago, ch. engr.

Montana—Montana & Southern Ry., recently incorporated with $1,000,000 capital stock, will construct lines up Big Hole and Wise River valleys to Ralston (Fishtrap P. O.) and Wisdom. E. E. Esselstyn, Butte, incorporator.

Oklahoma—R. D. Long, pur agt. and genl. mgr. of Muskogee Electric Traction Co., Muskogee, is reported interested in project to construct electric interurban line from Tulsa south to Okmulgee, 35 mi., to be part of line from Muskogee to Oklahoma City, 125 mi.

Nevada—Nevada Legislature granted franchise to W. E. Trent, Reno, for steam line from Elv, Nev., to Mina or Basalt (Sodaville P. O.) or to point on Tonopah & Goldfield R.R. to serve proposed smelter to be built in Tybo Road. Smelter will cost $4,000,000.

Arizona—City Council, Globe, granted franchise to Globe-Miami Ry. to construct electric railway from Globe to Miami. E. Sultan, Globe, secy. Noted Apr. 26.

Arizona—Tucson, Phœnix & Tidewater R.R., subsidiary of El Paso & Southwestern System, having surveys made for line from Tucson to Florence, also branch line to Copper Queen mining property. G. F. Hawks, El Paso, genl. mgr.

Washington—Yakima Valley Transportation Co. plans 3-mi. extension to Selah branch and a 1-mi. extension in Wide Hollow-Summit View Dist. west of city, to enter fruit district. N. C. Richards, 122½ West Yakima Ave., N., pres. and gen. mgr.

Prices and Contracts Awarded

(★Indicates award of contract)

★**Georgia**—Washington & Lincolnton R.R. let contract extension from Lovelace to Lincolnton to Brooks-Callaway Co., Healey Bldg., Atlanta. Noted Apr. 5.

★**Tennessee**—Cincinnati, New Orleans & Texas Pacific Ry. let contract 4-mi. railway from Robbins to Glenmary to H. H. Thrasher, 706 Bank and Trust Bldg., Knoxville; 12½-mi. line from Kings Mountain to Moreland (Butler P. O.) to Mann Constr. Co., Knoxville.

EXCAVATING AND DREDGING

Proposed Work

N. J., Newark—Reclamation—Street and Water Comrs. plan to issue $500,000 bonds to complete reclamation and improvement of lands for constructing public docks and transportation facilities. A. Archibald, city clk. M. R. Sherrard, city engr.

N. J., Trenton—Dredging—State Dept. Commerce & Navigation rejected bids dredging 2nd sect. of Bay Head-Manasquan Canal, on account of irregular bidding. Noted Apr. 19.

La., Plaquemine—Drainage—Lake Long D. D. plans election to vote on bonds to drain 35,000 acres between Plaquemine, town of Bayou Goula, Mississippi River and Grand River. E. Gay, J. Wilbert and J. Temlet, bd. mgrs.

Excavation and Dredging (Continued)

Ill., Murphysboro—Canal, etc.—A. Charles, 130 North 5th Ave., Chicago, chn. rivers and lakes comn., and L. K. Sherman, 6418 South Sangamon St., Chicago, interested in project to constructing artificial canal from Fountain Bluff (Gorham P. O.) on Mississippi River to Sand Ridge on Big Muddy River, about 6½ mi.; also to make canal of Big Muddy River to Plumfield, 55 mi. This project will enable coal to be shipped to Chicago from Murphysboro to eliminate possibility of coal famine. Plans include 2 locks and 1 dam.

Ia., Northwood—Drainage—C. N. Urdahl, co. aud., will receive bids in June for Drain No. 25, involving 22,828 ft. of 5-in. to 18-in. tile. J. H. Curtis, Northwood, engr.

Minn., Morris—Ditch—Swift Co. soon receives bids Judicial Ditch No. 5. D. P. Carney, co. aud.

Colo., Lamar—Canals and Laterals—Wiley D.D. voted $140,000 bonds to construct canals and laterals.

Utah, Provo—Drainage—Lake Shore and Benjamin Dists. will hold election June 9 to vote on $45,000 bonds to install drainage system.

Cal., Atascadero — (Official) — State Water Comn., Sacramento, granted permit to Atascadero Mutual Water Co. to take 7 cu.ft. per second of waters of Salinas River for municipal and irrigational purposes, by drawing water from wells in bottom of river by pumping plants and conducted to reservoir capable of storing 60,000 acre ft. to water 23,000 acres. About $750,000.

Cal., Coalinga—See "Reinforced Concrete."

Cal., Los Angeles—(Official)—Irrigation—State Water Comn., Sacramento, granted permit to California Highway Comn. of Los Angeles, 333 West 2nd St., to take 10 miner's in. of Salt Creek tributary to Castiac, Los Angeles Co., for highway construction and irrigation of trees, including pipe line 8 mi. long. About $30,000.

Cal., Marysville—Irrigation—(Official) — State Water Comn. granted permit to Farm Lands Investment Co., San Francisco, to take 100 cu.ft. per second of waters of Yuba and Feather Rivers for rice irrigation by means of series of 3 pumping plants and 7 mi. ditches conducting water to 7152 acres, about $31,000; also to take 150 second ft. of Feather River and Plumas and Messick Lakes, Yuba Co., by means of 3 pumping plants and 6 mi. main canals to irrigate 6463 acres.

Cal., Redding—(Official)—State Water Comn., Sacramento, granted permit to T. M. O'Keefe, Palo Cedro, to take 14.42 cu.ft. water per second of Main Cow Creek tributary to Sacramento River, Shasta Co., to irrigate 1442 acres; plans include rock and timber dam 4 ft. high and 200 ft. long and main canal and branch canals 8 mi. long. About $10,000.

Cal., Sacramento—(Official)—Irrigation—State Water Comn. granted permit to Natomas Co. of California, Forum Bldg., to take 50 cu.ft. per second of Sacramento River to irrigate 6600 acres by means of pumping plant, main ditch, 5½ mi. long and 17 mi. laterals. About $120,000.

Cal., Yuba City—(Official)—State Water Comn., Sacramento, granted permit to J. R. Catlett, Pleasant Grove, to take 7½ cu.ft. water per second of East Bypass of Rec. District No. 1001 at crossing at Auburn Ravine, consisting of removable dam and canal 1½ mi. long to irrigate 960 acres.

Bids Desired

Fla., Tallahassee — (Official)—Canal — Until June 5 by Bd. Comrs. Everglades D.D.; advertised in this issue.

O., Steubenville—Excavation—See "Sewers."

Ind., Anderson—Ditch—Until May 26 by L. Free, supt. constr. Madison Co., for Titus Ditch.

Ind., Huntington—Drainage—Until May 26 by Cline & Cline, for Ellsworth Ruggles Drain, No. 12,848. G. W. Hoch, comr.

Ind., Petersburg—(Official)—Ditch—Until June 18 by J. H. Chappell, atty., Petersburg, 8-mi. dredge ditch with necessary laterals in Flat Creek D.D. Former bids rejected. Noted May 10.

Ill., Savannah—Drainage—Until May 29 by N. D. French, secy. Savannah and York D.D., reconstructing and raising levee involving about 58,000 cu.yd. earth, construction and clearing out ditches, involving 106,000 cu.yd. earth excavation.

Ia., Grundy Center—Drainage—Until June 5 by Bd. Supervs., Grundy Co., for D.D. No. 2, involving 3600 ft. 15-in., 2100 ft. 12-in., 2800 ft. 8-in. tile, 1 bulkhead, 1 inlet, and 1 increaser, from 8-in. to 12-in.

Minn., Alexandria—See "Streets and Roads."

Minn., Crookston—Ditch—Until June 1 by H. J. Welte, co. audr., for ditch work as follows: Co. Ditch No. 112, 16,794 cu.yds. and about 1¾ mi. road work, about $2099; Co. Ditch No. 120, 9034 cu.yds. and about 1¼ mi. road work, about $1129; Co. Ditch No. 116, 49,681 cu.yd., and about 4¾ mi. road work, and 150 ft. of 2-ft. drain tile, about $6360; Co. Ditch No. 117, 64,257 cu.yds. and about 5¾ mi. road work, about $8032.

Minn., Owatonna—Ditch—Until June 6 (readvertisement) by audrs. Steel and Rice Co., Court House, Owatonna, for Judicial Ditch No. 6, involving excavation and constructing main ditch and 1 branch, consisting of 125,643 cu.yd. excavation and levelling waste banks. About $18,783. Noted May 3.

Idaho, Lewiston—See "Streets and Roads."

Cal., Fresno—Dams—Until June 12 by Dirs. South San Joaquin Irrigation Dist. for auxiliary dams at Woodward Reservoir.

Prices and Contracts Awarded

(★Indicates award of contract)

N. Y., Brooklyn—(Official)—Dredging—L. H. Pounds, boro. pres., received low bid dredging Gowanus Canal from its head to Hamilton Ave. from R. G. Packard Co., 133 Greenwich St., New York City. Noted May 10.

★**Mich., Centerville**—County let contract Nye Drain to C. A. Walb, $13,000 if straddle dredge is used, or $12,100 if floating dredge is used.

★**Ill., Woodstock**—Ditch—County let contract Crystal Lake D.D. to J. W. Debrun & Son, Assumption, open work; Streator Drain Tile Co., Streator, 29,150 ft. tile.

★**Ia., Glenwood**—Ditch—County let contract Nishnabotna Ditch No. 4 requiring 83,900 cu.yd. excavation, to L. E. Sternberg, Moberly, Mo.

★**Minn., Elk River**—(Official)—Ditch—County let contract County Ditch No. 19 to Central Contr. Co., Minneapolis, $13,402. Noted May 10.

★**Minn., Fairmont**—(Official)—Ditch — County let contract Judicial Ditch No. 73 to Thompson & Andersen, Windom, $34,500. Noted May 10.

★**Minn., Minneapolis** — (Official) — Dredging—County let contract dredging Lake Minnetonka to J. R. Johnson, Excelsior, scow dump 30c. per yd.; side dump, 15c. per yd. Noted May 10.

★**Wash., Seattle**—Dredging—See "Miscellaneous."

★**Cal., San Diego**—See "Reinforced Concrete."

INDUSTRIAL WORKS

Proposed Work

Mass., Boston—Boston Wharf Co., 259 Sumner St., will build 7-story, 110 x 100 x 110-ft. building in South Boston, to be leased to Atlantic Coast Hardware Co

Conn., Bridgeport—Connecticut Auto Mfg. Co. plans 4-story, 70 x 128-ft. factory.

N. Y., Long Island City—S. Karpen & Bro., 111 West 37th St., New York City, are having plans prepared by Ballinger & Perrot, 1328 Bway., New York City, 5-story, 100 x 450-ft. factory, Jackson Ave. between Hulst and Harold Ave. About $350,000.

N. Y., New York—Oval Garage Corp., 950 St. Johns Ave., having plans prepared by Goldner & Goldberg, archts., 391 East 149th St., for 3-story, 100 x 150-ft. garage. About $75,000.

N. J., Elizabeth—Pennsylvania & Delaware Oil Co. purchased 25 acres land along Elizabeth River and plans to spend $300,000 for buildings, pipe lines, railroad facilities, etc. A. F. Bender, 215 Broad St., Elizabeth, interested.

Pa., Phila.—(Official)—John Daly, Jr., Inc., had plans prepared by Peuckert & Wunder, archts., 310 Chestnut St., for 3-story, 80x125-ft. garage, rein.-con. with brick walls, and ornamental terra-cotta trimmings.

Pa., Pittsburgh—See "Reinforced Concrete."

Pa., Pittsburgh—Hay-Walker Brick Co., Farmers' Bank Bldg., plans 1-story, brick, concrete and steel factory, Thomas Blvd. and Braddock St. About $78,000.

Pa., Reading—Philadelphia & Reading R.R. plans 27-stall roundhouse, turntable and shops at its repair and construction plant. About $800,000. S. T. Wagner, Old Colony Bldg., Chicago, ch. engr.

Md., Baltimore—Baltimore Storage Co., 1710 Edmondson St., plans 6-story, 40x150-ft. brick and rein.-con. warehouse.

Md., Baltimore—Maryland Shipbuilding Co., 907 Lexington Bldg., having plans prepared for plant. About $1,000,000. E. F. Clarke, pres.

Md., Cumberland—Kelly-Springfield Tire Co., Cook St., Akron, O., has had plans prepared by E. Necarsulmer, archt., 507 5th Ave., New York City, for manufacturing plant. About $1,000,000. T. G. Marshall, gen. mgr.

Wash., D. C.—Semmes Motor Co., 1134 Connecticut Ave., N. W., having plans prepared by Milburn, Heister & Co., archts., Union Savings Bank Bldg., for brick and concrete garage, Rhode Island Ave. About $100,000.

Va., Newport News—Newport News Shipbuilding & Drydock Co. plans to improve plant, including machine shop, foundry addition, shipbuilding slips, machinery, etc. About $800,000. H. L. Ferguson, pres.

Va., Westpoint—York River Shipbuilding Corp., Richmond, will be incorporated with $1,000,000 capital stock, and plans plant here. W. Moore, Richmond, pres.

N. C., Roanoke Rapids—See "Reinforced Concrete."

Ala., Alabama City—Dwight Mfg. Co. [illegible] 3-story, 80x180-ft. picker house. About $[illegible],000.

Ky., Lexington—R. J. Reynolds Tobacco Co. plans addition. About $75,000.

Ky., Louisville—Kentucky Wagon Mfg. Co., 3rd and K Sts., plans forge shop. About $50,000.

O., Cleveland—Upson-Walton Co., 1311 West 11th St., purchased site on West 11th St. and plans 6- or 7-story warehouse.

O., Dayton—See "Reinforced Concrete."

Mich., Grand Rapids—Higrade Motor Co. plans factory. About $350,000.

Ill., Chicago—Staver Motor Car Co., 3021 South Michigan Ave., plans 3-story, 75 x 175-ft. factory, Wabash and 36th Sts. About $75,000.

Wis., Clintonville—Four Wheel Drive Automobile Co. plans 1-story, 100 x 180-ft. brick and concrete addition. W. A. Olen, pres.

Wis., Marshfield—Miller Fruit Co. has had plans prepared for 3-story, 75 x 80-ft. brick and concrete warehouse and refrigerating plant. About $50,000.

Wis., Milwaukee—E. H. Karrer Co., 728 West Water St., plans 6-story, 20 x 127-ft. plant. About $50,000.

Ia., Waterloo—Illinois Central Ry. plans ice house and 150,000-gal. water tank. About $50,000. A. S. Baldwin, 135 East 11th Pl., Chicago, ch. engr.

Minn., Minneapolis—Quinn Shepherdson Co., 1122 Flour Exchange, will rebuild grain elevator, University Ave. and 25th St. T. E. Ibberson, archt., Corn Exchange, soon receives bids.

Mo., Kansas City—Kopp Baking Co., 36 South 7th St., purchased site, 6th and Splitlog Sts., and plans steam bakery. About $80,000.

Mo., St. Louis—Morris & Co., Natl. Stockyards, purchased site on Vandeventer St. and will construct cooling plant. About $50,000.

Tex., Dallas—Hamilton Carhartt Cotton Mills, 10th and Michigan Aves., Detroit, plans branch factory here. About $50,000.

Tex., Dallas—Wyatt Metal and Boiler Works, incorporated with $100,000 capital stock, plans sheet-metal and boiler-making plant.

Tex., Elmendorf—Star Clay Products Co. plans addition to its brick and tile plant. About $100,000. A. Wagner, San Antonio, pres.

Okla., Guthrie—Carter Oil Co. plans to erect oil refinery here. About $100,000. Address Chamber of Commerce.

Utah, Maryvale—Pittsburgh-Utah Potash Co. plans plant About $80,000. J. Long, Jr., supt.

Ariz., Flagstaff—See "Reinforced Concrete."

Ont., Amherstburg—Brunner-Mond Co., subsidiary of Solvay Process Co., of Detroit, having plans prepared 16-story industrial building. About $2,000,000.

Que., Maisonneuve—Eureka Toy Co. having plans prepared for factory. About $85,000.

Bids Desired

N. Y., Dunkirk—(Official)—Until May 31 by State Conservation Comn., 156 State St., Albany, for fish hatchery; advertised in this issue.

Mich., Constantine—See "Water-Works."

Prices and Contracts Awarded

(★Indicates award of contract)

★**Vt., Bennington**—See "Reinforced Concrete."

★**Mass., Boston**—(Charlestown P. O.)—See "Reinforced Concrete."

★**Mass., New Bedford**—Taunton-New Bedford Copper Co., North Front St., let contract rolling mill and machine shop to J. W. Bishop & Co., 109 Foster St., Worcester, $250,000. Noted Apr. 26.

★**R. I., Cranston**—Landelier Mfg. Co., 67 Clifford St., let contract brick factory to W. H. Hamlin & Co., 78 Mawney St., Providence, $50,000.

★**N. Y., East Salamanca**—(Salamanca P. O.)—Buffalo, Rochester & Pittsburgh Ry. let contract machine and erecting shops, transfer table, blacksmith shop and storehouse to Westinghouse Church Kerr Co., 37 Wall St., New York City, $500,000.

★**N. Y., New York**—Tremont Silk Mills, Webster Ave and 174th St., let contract addition to J. A. Zimmerman, 16 East 41st St., $60,000. Noted Apr. 5.

★**N. J., Newark**—General Electric Co., Boyd St. and 17th Ave., let contract plant on Lillie St. near 17th to F. W. Mark Constr. Co., Finance Bldg., Phila., $360,000. Noted Apr. 17.

★**Pa., Erie**—Anchor Line, Holland St., let contract, unloading tower to H. L. Stevens & Co., 910 South Michigan Ave., Chicago, $100,000.

★**Pa., Hazleton**—See "Reinforced Concrete."

★**Pa., Phila.**—Orinoka Mills, Ruth and Somerset Sts., let contract brick and concrete addition to W. Steele & Sons Co., 1600 Arch St., $150,000.

★**Pa., Phila.**—Shane Bros. & Wilson, 63rd and Market Sts., let contract 5-story, 60 x 100-ft. addition to flour mill to R. Killough, Wayne Ave. and Duval St.

Industrial Work (Continued)

★Pa., **Phila.**—S. P. Wetherill, Morris Bldg., let contract factory, 618-20 Cherry St., to Cramp & Co., Denckla Bldg., $85,000.

★Pa., **Phila.**—See "Reinforced Concrete."

★O., **Sandusky**—Hinde-Dauch Paper Co, 821-31 Water St., let contract factory to W. M. Sutherland, Leather Bldg., St. Louis, $500,000.

★O., **Springfield**—Steel Products Co., Columbia and Dakota Sts., let contract 3-story brick and steel addition to Ritchie-Werts Co., South Perry St., Dayton.

★**Mich., Detroit**—See "Reinforced Concrete."

★**Mich., Detroit**—Matthews Mfg. Co. let contract 2-story, brick foundry and 1-story, steel power plant, 62-68 Chatfield St., to Walbridge-Aldinger Co., 2356 Penobscot Bldg, $50,000.

★**Mich., Detroit**—Parson Mfg. Co, c/o Kinsley Bros., 2799 South 5th Ave, let contract plant to J. Springer, Builders' Exchange, Cleveland, $70,-000. Noted Apr. 19.

★**Mich., Detroit**—See "Reinforced Concrete."

★**Ill., Chicago**—S. H. Rosenthal, 2611 Indiana Ave., let contract brick storage building, 2911-17 Indiana Ave., to Anderson & Winblad, 6235 Michigan Ave., Chicago, $150,000.

★**Kan., Topeka**—See "Reinforced Concrete."

N. D., Grand Forks—(Official)—We have been informed that McKinney-Fuller Motor Co. did not award the contract for plant to Northern Constr. Co., Elkhart, Ind. Noted May 10.

★**Utah, Salt Lake City**—See "Reinforced Concrete."

★**Ore., Portland**—See "Reinforced Concrete."

★**Que., Three Rivers**—St. Maurice Foundry Co. let contract foundry to Nobert, Dugre & Arseneau, $30,000.

★**Ont., Ft. William**—Western Grain Co., 338 Grain Exchange Bldg., let contract elevator to Fegles-Bellows Engr. Co., 1101 Union Bank Bldg., $90,000.

★**Ont., Toronto**—Dominion Envelope Co., 90 Ontario St., let contract mill and brick addition to warehouse to T. Essery, Elliott House, Shuter St., $50,000.

BUILDINGS

Proposed Work

Me., Presque Isle—Normal School—State had plans prepared by W. E. Mausur, archt., Bangor, 3-story, 67 x 138-ft. About $50,000.

Conn., Darien—School—Bd. Educ. having plans prepared by P. Sunderland and E. Watson, archts., Library Ave., Danbury, 2-story. About $75,000 J. F. Williams, supt.

Conn., Milford—Schoolhouse—Town voted $150,-000 bonds to build schoolhouse.

Conn., South Norwalk—Bd. Educ having plans prepared by J. A. Jackson, archt., 1123 Broadway, New York City. About $50,000. J. Cobrun, chn.

N. Y., Buffalo—Club—Saturn Club, c/o J. L. Crane, Delaware and Edwards Sts., having plans prepared by Lansing, Bley & Lyman, archts, 250 Delaware Ave., 8-story, 80 x 118-ft. About $400,-000.

N. Y., Corona—Theater—A. Nathanson, c/o Feinberg & Ricca, archts., 26 Court St., Brooklyn, had plans prepared, 2-story, 100 x 125-ft. About $75,000.

N. Y., Geneseo—School—Geneseo State Normal School, Geneseo St., plans addition. About $80,-000. L. F. Pilcher, Capitol, Albany, archt.

N. Y., New York—City having plans prepared by Pilcher & Tachan, archts., 109 Lexington Ave., addition and alteration to armory, Park Ave. and 94th St. About $260,000.

N. Y., North Tarrytown—Hospital—I. L. Rice Memorial Hospital for Convalescents, 61 Broadway, had plans prepared by H. B. Herts, 345 5th Ave., New York City, 3-story, 150 x 350-ft.

N. Y., Syracuse—School—Bd. Educ. soon receives bids 3-story addition to Lincoln School. N. H. LaVaute, 1st Natl. Bank Bldg., archt.

N. Y., Wyantskill—(Official)—Sanitorium—Bd. Supervs of Bldg. and Supply Comn. receiving bids in June, sanitorium, including water plant and sewage-disposal plant. About $150,000. Noted May 10.

N. J., Camden—Bank—Merchants Trust Co., Broadway and Baird St, having plans prepared by P. A. Davis, archt., 1713 Sansom St., Phila, 1-story, 40 x 90-ft. About $80,000. A. Frey, pres. and chn. bldg. com.

N. J., Glassboro—School—City plans election to vote on $60,000 bonds to build school.

N. J., Newark—Business—A. W. Moore, 22 Green St., had plans prepared by H. Baechlin, archt., 665 Broad St., 2-story, 50 x 125-ft. About $65,000.

N. J., Princeton—Station—Pennsylvania R.R. soon receives bids 1-story, stone and steel, passenger, freight and express station. About $75,-000. W. H. Cookman, Broad St. Station, Phila., archt. A. C. Shand, Broad St. Station, Phila., ch. engr.

N. J., West New York—School—Bd. Educ. plans to build P. S. No. 1, 3-story, 150 x 200-ft. About $200,000 H. G. Auf der Heide, pres. W. Mayer, Jr., and E. Manhan, 711 Bergenline Ave., archts.

Pa., Chester—Hotel—G. Shober, 305 Market St., Phila., having plans prepared by E. E. Wilson, archt., 1208 Chestnut St., Phila., 4-story.

Va., Petersburg—Bank—Natl. Bank, Sycamore and Tebb Sts., had plans prepared by Ferguson, Calrow & Vrenn, archts., Virginia Bank Bldg., Norfolk, 2-story, 40 x 100-ft. About $60,000. W. L. Venoble, cashier.

Va., Roanoke—School and Church—Belmont Methodist Episcopal Congregation had plans prepared by H. L. Cain, archt., Merchants Bank Bldg., Richmond, 1-, 2- and 3-story. About $50,-000 J. H. Batthis, pastor.

W. Va., Charleston—Hotel—Holly Hotel having plans prepared by C. C. & E. A. Weber, archts., Citizens Natl. Bank Bldg., Cincinnati, for 4-story addition.

W. Va., Moundsville—(Official)—Schools—City voted $165,000 bonds to build 4 schools. E. B. Franzheim, archt., Schmulbach Bldg., Wheeling, preparing plans. Noted May 10.

N. C., Henderson—Bank—1st Natl. Bank soon receives bids. About $60,000. Milburn, Heister & Co., archts., Union Savings Bank Bldg., Wash., D. C., prepared plans.

La., New Orleans—Club—Louisiana Motor Co., Inc., 621 St. Charles St., having plans prepared by R. De Buys, archt., Hibernia Bank Bldg. About $50,000.

Tenn., Johnson City—School—City voted $50,-000 bonds to build new school.

Ky., Frankfort—Hotel—Capitol Hotel having plans prepared by C. C. & E. A. Weber, archts., Citizens Natl. Bank Bldg., Cincinnati, for addition.

O., Carey—Church—Shrine of Our Lady of Consolation Congregation had plans prepared by J. J. Gander, archt., 61 State St, Albany, 1½-story, 125 x 150-ft. About $85,000. A. Fish, pastor.

O., Cleveland—School—Bd. Educ. having plans prepared by W. R. McCormick, archt., East 6th St and Rockwell Ave., for 2-story addition to Rice School. About $160,000. F. G. Hogan, dir.

O., Columbus—Y. M. C. A. having plans prepared by O. Darst, archt, 145 North High St., for 2 buildings. About $400,000.

O., Defiance—High School—Bd. Educ. plans, 3-story About $200,000. McLaughlin & Hulsken, archts., 610 Savings Bldg., Lima, soon receives bids.

O., Middleport—Lodge and Club—Masonic Fraternity having plans prepared. About $50,000.

O., Rocky River—High School—Bd. Educ. soon receives bids, 2-story, 80 x 120-ft. About $60,000. W. H. Nicklas, 1900 Euclid Bldg., Cleveland, archt.

O., Springfield—Dormitory and Hospital—Pythian Home for Aged retained R. C. Gotwald, archt., Totwald Bldg., to prepare plans. Cost, $50,000.

O., Toledo—Station—Pennsylvania Lines West of Pittsburgh plans, to be used also as pier for railroad and steamship traffic. Project will cost several million dollars T. Rodd, Pennsylvania Station, Pittsburgh, ch. engr.

O., Toledo—Exchange—Central Union Telephone Co. plans, Geneva and Arlington Aves. About $70,000. C. B. Abbott, 14 Spitzer Bldg, mgr.

Ind., Battle Ground—High School—Bd. Educ. had plans prepared by C. W. Nicol, archt., 212 Murdock Bldg., LaFayette, 1-story, 48 x 80- and 62 x 168-ft. About $50,000. O E. Throokmorton, M.D., trustee.

Ind., Ft. Wayne—Y. M. C. A. Bldg. Com. had plans prepared by Shattuck & Hussey, archts., 19 South La Salle St., Chicago, and C. R. Weatherhogg, archts., Hamilton Natl. Bank Bldg., for 8-story, rein.-con., brick and stone building at East Washington Blvd. and Barr St. A. H Perfect, chn.

Mich., Adrian—Auditorium—St. Josephs Academy plans. About $125,000. P. Diedrich, archt., 502 Chamber of Commerce Bldg., Detroit, soon receives bids.

Mich., Detroit—Store—W. E. Bedell, Inc, 200 5th Ave., New York City (main office), acquired site at 183-85 Woodward Ave., and is having plans prepared by Smith, Hinchman & Grylls, archts. and engrs., Washington Arcade, 10-story.

Ill., Elgin—Clubhouse—Loyal Order of Moose to build. Cost, $150,000.

Ill., Kewanee—Hospital—Kewanee Public Hospital, c/o W. F. Jones, 309 Tremont St., plans, 2-story. About $50,000. J. G. Beadle, archt., Galesburg, preparing plans.

Wis., La Crosse—Church and Rectory—St. Mary's Congregation retained Parkinson & Dockendorff, archts., Tinker Bldg., to prepare plans. About $80,000. Noted Jan. 25.

Wis., Madison—Theater—F. & H. Amusement Co. had plans prepared by G. Rapp, archt., 69 West Washington St., Chicago, theater on East Mifflin St. About $60,000 or $75,000.

Wis., Milwaukee—Store—E. H. Karrer Co., 278 West Water St., plans, 3-story, rein.-con. and brick. About $50,000.

Ia., Centerville—High School—Bd. Education receiving bids in June, 2-story, 160x200-ft. brick. About $150,000. M. B. Cleveland, 603 1st Natl Bank Bldg., Waterloo, archt.

Ia., Columbia Junction—High School—Bd. Educ. retained Ecklund, Fugard & Knapp, archts., Moline, to prepare plans About $90,000.

Ia., Corydon—Schools—City plans election to vote on $80,000 bonds to build schools.

Ia., Cresco—Schools—Bd. Educ. having plans prepared by G. L. Lockhart, archt., 391 Endicott Bldg., St. Paul, for vocational and grade school About $70,000. A. Tiss, supt.

Ia., Marshalltown—School—Independent School Dist. will vote May 31 on $68,000 bonds for primary and vocational school and $12,000 for primal building.

Ia., Mason City—School—City voted $100,000 bonds to build school. J. H. Felt & Co., 800 Grand Ave. Temple, Kansas City, Mo., archts.

Minn., Bemidji—Normal School—State Bd. Control soon lets contract, for which $75,000 has been appropriated by State Legislature. C. H. Johnston, 715 Capital Bank Bldg., archt.

Minn., St. Paul—Schools—City will hold election June 18 to vote on $3,000,000 bonds to build school. J. I. Farley, clk.

Kan., Ft. Riley—Depots—See "Railways."

Kan., Ft. Scott—School—Bd. Educ. voted $90,-000 bonds to build school. C. W Mitchell, secy. W. T. Schmitt, Oklahoma, archt. Noted Apr. 5.

Kan., Hutchinson—High School—Bd. Educ. plans, brick, stone and rein. con. About $128,-000. W. E. Hulse & Co., 1st Natl Bank Bldg., archts.

Kan., Kansas City—Auditorium—City plans, 3-story, 125x130-ft., brick, stone and concrete. About $125,000. Rose & Peterson, Barker Bl., archts.

S. D., Mt. Vernon—School—City voted $50,000 bonds to build school.

S. D., Parker—Court House—County defeated $200,000 bonds to build court house. V. B. Clugeman, clk.

Mont., Helena—Office—1st Securities Co. plans, 5-story. About $325,000 H. L. Stevens Co., 910 South Michigan Ave., Chicago, archts.

Mont., Livingston—High School—City will vote June 2 on $68,000 bonds to build high school.

Mo., Kansas City—Temple—Scottish Rite Temple, 15th and Troost Ave., plans, Linwood Blvd. and The Paseo. About $250,000.

Mo., Mexico—Academy—Missouri Military Academy had plans prepared for 3-story addition. About $50,000 A. Burton, pres. Barnett, Haynes & Barnett, archts., Century Bldg., St. Louis, receiving bids about June 1.

Tex., Bryan—School—School Bd. plans election to vote on $100,000 bonds to build school.

Tex., Calvert—School—School Dist. soon lets contract About $50,000. Ross & Cason, Amicable Bldg., Waco, archts. Noted May 17.

Tex., Dallas—Theater and Office—Interstate Amusement Co., c/o J. Eberson, archt, 64 East Van Buren St., Chicago, having plans prepared, 10-story, 120 x 200-ft. About $350,000.

Okla., Guymon—School—Bd. Educ. had plans prepared by Hawk & Parr, archts., Security Bldg, Oklahoma. About $57,000. C. A. Nash, secy

Okla., Shawnee—Schools—Bd. Educ. voted $90,-000 bonds to build 2 ward schools and high school.

Utah, Ogden—High School—City had plans prepared by L. S. Hodgson, archt., Perry Hudson Bldg. Bids will soon be received. Noted May 17.

Wash., Bremerton—Osman Amusement Co. having plans prepared by M. Umbrecht, archt., Arcade Bldg., Seattle, 2-story, 60x105-ft. About $75,000.

Cal., Sacramento—See "Reinforced Concrete."

Cal., San Francisco—See "Reinforced Concrete."

Ont., Toronto—Bank—Canadian Bank of Commerce soon receives bids stone and brick bank. Dominion Realty Co., King and Jordan Sts., archts.

Bids Desired

Pa., Vandergrift—(Official)—High School—Until June 12 by T. B. Graden, secy. Bd Educ. About $125,000. W. G. Eckles, Lawrence Savings and Trust Bldg., Newcastle, archt. Noted May 3.

W. Va., Wheeling—High School—Until June 2 by S. S. Jabob, Jr., secy. Bd. Educ. Triadelphia Dist, Ohio Co. F. F. Faris, Schmulback Bldg., archt.

Ga., Macon—Auditorium—Until May 28 by city 140 x 206-ft., hollow tile and concrete. About $100,000. A. Blair, archt.

Buildings (Continued)

O., Bedford—High School—Until May 28 by A. L. Colburn, pres. bd. educ., 2-story, 62x90 ft. About $50,000. C. E. Beal, 401 Lodi St., Elyria, archt.

O., Cleveland—School—Until June 11 by Bd. Educ., East 6th St. and Rockwell Ave., 3-story, 75 x 175-ft. Gladstone School. About $200,000. W. R. McCormick, East 6th St. and Rockwell Ave., archt. Noted May 10.

Ia., Centerville—High School—Until June 5, J. B. Bruckshaw, secy., bd. educ., 2-story, 150x200-ft., brick, stone or terra cotta and rein.-con. About $150,000. M. B. Cleveland, 603 1st Natl. Bank Bldg., Waterloo, archt.

Ia., College Springs—School—Until June 4 by Bd. Educ., 3-story, 72 x 134-ft., brick, stone and concrete. About $65,000. W. N. Dow, secy. Noted May 17.

Ia., Randolph—School—Until June 9 by A. L. Duncan, secy., bd. dirs. Randolph Consolidated Independent School Dist. C. M. Nye and N. C. Robinson, archts.

Ia., Rockwell City—(Official)—Reformatory—Until June 5 by F. S. Treat, secy. state bd. control, Des Moines, to include 4 buildings. Proudfoot Bird & Rawson, 810 Hubbell Bldg., Des Moines, archts.

Minn., Aurora—(Official)—High School—Until June 12 by W. J. Rashleigh, clk., Independent School Dist. Tyrie & Chapman, 320 Auditorium Bldg., Minneapolis, archts.

N. D., Fargo—(Official)—Grade School—Until June 4 by E. G. Guthrie, secy. bd. educ. About $100,000. Haxby & Braseth, 113 Bway., archts. Noted Apr. 12.

N. D., Lakota—Until June 15 by Lakota Hotel Co., 3-story, 78 x 85-ft. About $50,000. W. F. Kurke, Fargo, archt.

Prices and Contracts Awarded

(★Indicates award of contract)

★Mass., Boston—Dormitory—Hebrew Ladies' Home for Aged, 21 Queen St., let contract, 3-story, 30 x 100-ft., brick, to Nathan Fritz Contr. Co., 62 Maywood St., Roxbury. Noted May 10.

★Mass., Pittsfield—Lodge and Office—L. G. Lloyd, 395 North St., let contract, North and Bradford Sts., to Tracy Bros. Co., Central Ave. and Grove St., $50,000. Noted May 17

★Conn., Bridgeport—City let contract public welfare building, Washington and Madison Aves., to Eastern Engr. & Constr. Co., Main and Elizabeth St., Derby, $150,000.

N. Y., Brooklyn—(Official)—L. H. Pounds, boro. pres., Boro Hall, received low bid reconstructing Kings Co. courthouse from P. J. Carlin Co., 1123 Bway., New York City, $562,000.

★N. Y., Brooklyn—Y. M. C. A. let contract 4-story, 75x100-ft., brick and stone building, 405 Carlton Ave., to Trinity Constr. Co., 215 Montague St.

★N. Y., Brooklyn—Hospital—Trustees of Carson C. Peck Memorial Hospital, 350 Fulton St., let contract, Crown and Montgomery Sts., to J. C. Heggman Co., 33 West 42nd St., New York City, $300,000.

N. J., Englewood—High School—Bd. Educ. received low bid Lincoln High School from De Riso & Arena, 425 Bergenline Ave., Union. About $175,000. Noted May 3.

★Pa., Bradford—Church—1st Presbyterian Congregation let contract to E. N. Unruh, 54 Main St. About $100,000.

★Pa., Charlerol—City Hall—Boro let contract to Charlerol Lumber Co., Charlerol, $55,000. Noted Apr. 26.

★Pa., Nesquehoning—High School—Town let contract to Schamokin Lumber Co., 37 South 5th St., Schamokin, $77,000.

★Pa., Olney—School and Church—Olney Presbyterian Congregation let contract to F. L. Hoover & Sons, 1023 Cherry St., Phila., $80,000. Noted Apr. 12.

★Pa., Phila.—(Official)—Sanitorium—Bella Vista Sanitorium let contract, 2-story, to H. P. Schelder, 3717 Old York Rd. Noted May 10.

★D. C., Brookland—Branch House—Catholic University let contract branch house at St. Mary's Seminary to C. J. Cassidy Co., 715-16 Southern Bldg., Wash. About $200,000.

★S. C, Gaffney—Hotel—Gaffney Hotel Co. let contract to V. I. Spurgeon & Co., Gaffney, $60,000.

★Ga., Decatur—Court House—De Kalb Co. let contract, 2-story, 80x144-ft., to Donaldson & Pearson, 25 Houston St., Atlanta.

★Ky., Ashland—High School—Bd. Educ. let contract to Sanders Constr. Co., $100,000.

★Ky., Lexington—Church—Broadway Christian Congregation let contract to F. Corbin, Lexington, $100,000. Noted May 17.

★O., Youngstown—Art Galley—J. G. Butler, Jr., c/o McKim, Meade & White, archts., 101 Park Ave., New York City, let contract to J. H. Parker Co., 315 4th Ave., New York City. About $100,000.

★Ind., Terre Haute—School—Bd. Educ. let contract Sarah Scott School to A. W. Stoolman, 1001 South 3rd St., Champaign, $93,773. Noted May 10.

★Ia., Sioux City—(Official)—High School—Bd. Educ. let contract to N. Oien, Sioux City, $69,000. Noted May 3.

★Mont., Glasgow—Bank—Farmers and Stockgrowers Bank let contract to Leigland & Kleppe, Tod Bldg., Great Falls, $60,000.

★Nev., Fallon—High School—See "Reinforced Concrete."

★Wash., Bremerton—Theater—Aswald Amusement Co. let contract, 2nd St. near Pacific Ave., to A. G. Benbennick, $75,000.

★Wash., Ephrata—Court House—Comrs. Grant Co. let contract to J. F. Lorenz, 1009 24th St., Spokane, $63,263.

★Ore., Salem—Hospital—Oregon State Hospital for Insane let contract to Parker & Banfield, Columbia Bldg., Portland, $50,644. Noted May 17.

★Cal., Fresno—Theater—Einstein Investment Co. let contract, Van Ness St., to Trewhitt & Shields, Fresno, $107,500.

FEDERAL GOVERNMENT WORK

Proposed Work

N. Y., New York—Structural Shop—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., having plans prepared.

Va., Norfolk—Hospital—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., preparing plans emergency hospital.

S. C., Charleston—Hospital—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., preparing plans emergency hospital.

Fla., Key West—Buildings—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., received no bids quarters for chief petty officers at distant control naval radio station. Noted Apr. 26.

Mich., Port Huron—Lookout System—J. A. Wetmore, superv. archt., Treas. Dept., Wash., received no bids erection at custom house and post office. Noted May 3.

Ariz., Nogales—Bridge—J. A. Wetmore, superv. archt., Treas. Dept., Wash., received no bids bridge on customs reservation. Noted Apr. 26.

Wash., Bremerton—Barracks—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., preparing plans emergency barracks, Puget Sound Navy Yard. About $250,000.

Bids Desired

Mass., Ft. Andrews—Reservoir—Until June 6 by Constr. Quartermaster, Ft. Warren, Mass., for 300,000-gal. concrete reservoir. C. O. Zollars, capt. coast artillery corps.

Wash., D. C.—Coast Guard Station—Until June 14 by Navy Dept., U. S. Coast Guard, Wash., for Coast Guard Station No. 184, Creeds Hill, N. C. E. P. Bertholf, capt. commandant.

Wash., D. C.—Laboratory—Until June 2 by Donn & Deming, 808 17th St., N. W., for radio laboratory for Bureau of Standards.

Wash., D. C.—Radio Buildings, Etc.—Until June 11 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., radio buildings at Portland, Me.; Portsmouth, N. H.; North Truro, Mass.; Charleston, S. C., and St. Augustine, Fla.; 1 1-story wood frame quarters and 1—125-ft. self-supporting steel tower at Jupiter, Fla.; 1-story dormitory and outhouse, receiving building and 3 150-ft. guyed steel pipe masts at New Orleans, La.

Wash., D. C.—Radio Buildings—Until June 11 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., at high-power radio station, El Cayey, P. R.

Wash., D. C.—School—Until May 29 by O. P. Newman, Dist. Comr., Room 509, Dist. Bldg., for addition to school, Division Ave. and Hays St., N. E., Burrville.

Wash., D. C.—Shell Houses, Etc.—Until June 4 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., for 2 shell houses, 1 torpedo storehouse and 1 magazine building, at naval ammunition depot, St. Juliens Crek, Va. Noted May 10.

Va., Cape Henry—Building—Until June 7 by U. S. Dept. Agriculture for 3-story building for Weather Bureau, U. S. Dept. Agriculture.

Va., Norfolk—Traveling Cranes—Until May 28 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., for foundry at Navy Yard. Noted May 17.

Tenn., Memphis—Barge—Until June 15 by Mississippi River Comn., U. S. Engr. Office, Custom House, Memphis, 1 steel barge, No. 1719; advertised in this issue.

Wis., LaCrosse—Heating System—Until May 28 by J. A. Wetmore, superv. archt., Treas. Dept., Wash., for heating system in post office.

Wyo., Cody—Post Office—Until June 1 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.

Ark., Fordyce—Post Office—Until June 22 by J. A. Wetmore, superv. archt., Treas. Dept., Wash.; advertised in this issue.

Tex., Ft. Bliss—Pumping Station—Until June 14 by Depot Quartermaster, El Paso, Tex.; advertised in this issue.

Okla., Altus—Post Office—Until June 1 by J. A. Wetmore, superv. archt., Treas. Dept., W...

Colo., Denver—Gates—Until June 1 by U. S. Rec. Ser., Denver, furnishing lateral turnout gates for Sun River Irrigation Project, Mont., and Boise Irrigation Project, Idaho, material furnished will require about 15 tons of metal work.

Cal., San Pedro—Heating Systems—Until June 1 by Constr. Quartermaster, 1206 Pacific Ave., San Pedro, for gas-fired heating systems in various buildings to be constructed at Ft. MacArthur, Cal.

Prices and Contracts Awarded

(★Indicates award of contract)

N. H., Portsmouth—Capt. Commandant, U. S. Coast Guard, Wash., D. C., received low bids, coast guard station, Quoddy Head, Me. from McDonald & Kivell, 153 Milk St., Boston, $9500, time Sept. 8; T. A. Cassidy, Fitchburg, Mass., $10,600, time Sept. 1; Fadas & Son, Provincetown, Mass., $14,874, time Dec. 15. Noted Apr. 26.

★R. I., Newport—Buildings—Bureau Yards and Docks, Navy Dept., Wash., let contract seaman's gunners' quarters, Naval Torpedo Station to G. Baker Long, 340 Main St., Worcester, Mass., $131,000. Noted May 10.

★Pa., Ft. Mifflin—(Phila. P. O.)—Fence—Bureau Yards and Docks, Navy Dept., Wash., let contract at Naval Ammunition Depot to Cyclone Fence Co., Waukegan, Ill., $22,413. Noted May 17.

★Pa., Media—Post Office—J. A. Wetmore, superv. archt., Treas. Dept., Wash., let contract to W. H. Fissell & Co., 1133 Bway., New York City, $48,700. Noted May 17.

★Pa., Phila.—Barracks—Bureau Yards and Docks, Navy Dept., Wash., let emergency contract for emergency barracks to Fraser, Brace & Co., 1328 Bway., New York City, $200,000. Noted Apr. 26.

Pa., Phila.—Pumping Plant—Bureau Yards and Docks, Navy Dept., received only bid, at dry docks at Phila. and Norfolk Navy Yards, from Worthington Pump and Machinery Corp., 115 Bway., New York City, using General Electric equipment, both $366,981, Norfolk, $187,666, Phila., $185,786; using Westinghouse equipment, both $390,828, Norfolk, $203,573, Phila., $198,257. Noted Apr. 26.

★Md., Indian Head—Sulphur Storehouse—Bureau Yards and Docks, Navy Dept., Wash., let contract to Penn Bridge Co., Bond Bldg., Wash., $23,921. Noted May 17.

Wash., D. C.—Building—Bureau Yards and Docks, Navy Dept., received low bids, repairs to Naval Hospital, from Melton Constr. Co., 14th and H Sts., $47,435; Skinker & Garrett, 1416 F St., $46,460; W. E. Mooney, Evans Bldg., $40,763. Noted May 10.

★Wash., D. C.—Buildings—Bureau Yards and Docks, Navy Dept., let contract contagious wards at following points: Great Lakes, Ill., C. F. Carson & Co., 155 North Clark St., Chicago, $29,400; Newport, R. I., Martin F. Kelly, 51 East 41st St., New York, $25,257; Portsmouth, N. H., G. B. Long, 340 Main St., Worcester, Mass. cost plus 10%; Norfolk, Va., Newport Contr. and Engr. Co., Silsby Bldg., Newport News, Va., $48,100. Noted May 17.

★Wash., D. C.—Grading—Dist. Comrs. let contracts to G. Hyman, 2117 E St., N. W., 50c. per cu.yd. for grading Tracy Pl; H. F. Voight Co., Inc., 715 14th St., N. W., 48c. cu.yd. for Thornton Pl., 50c. per cu.yd. 14th St., N. E., and 29c. for 8th St., N. W. Noted May 10.

Wash., D. C.—Sewers—Dist. Comrs., Room 509, Dist. Bldg., received bids, May 14, (a) excavation, (b) masonry, (c) vitrified brick masonry, (d) sewer brick masonry, from W. F. Brenizer Co., Q near 1st St., N. W., (a) 95c, (b) $9.50, (c) $23, (d) $16; W. F. Cush, 1st and F Sts., N. W., (a) $1.45, (b) $7.95, (c) $23, (d) $15. Noted May 10.

Va., Norfolk—Pumping Plant—See "Phila., Pa."

★S. C., Charleston—Barracks—Bureau Yards and Docks, Navy Dept., Wash., let emergency contract for emergency barracks to Charleston Engr. and Constr. Co., 58 Broad St., Charleston, at cost plus 10%, about $200,000.

S. C., Columbia—Post Office—J. A. Wetmore, suprev. archt., Treas. Dept., Wash., received low bids, May 15, (a) Mt. Airy granite, (b) Stone Mountain granite, from W. H. Maxwell, Lakeside, Wash., $279,800, any satisfactory stone; Wise Granite and Constr. Co., American Natl. Bank, Richmond, Va., (a) $304,000, (b) $310,000; G. T. Waring, Columbia, (a) $328,000, (b) $334,000.

Ga., Fitzgerald—Post Office—J. A. Wetmore, superv. archt., Treas. Dept., Wash., received bids, May 14, (a) limestone, (b) standstone, from Wise Granite and Constr. Co., American Natl. Bank, Richmond, Va., (a) $41,900, (b) $43,000; W. F. Brent, Board of Trade Bldg., Norfolk, Va., (a) $42,768, (b) $43,218; A. Blair, Hill Bldg., Montgomery, Ala., (a) $45,247. Noted Apr. 10.

La., New Orleans—Storage Shed—Bureau Yards and Docks, Navy Dept., Wash., received low bids from Penn Bridge Co., Bond Bldg., Wash., $49,475; J. Thatcher & Sons, 60 Park Ave., Brooklyn, N. Y., $52,425; V. Lambou, 625 Broad St., New Orleans, $56,469. Noted Apr. 26.

Federal Government Work (Continued)

Tenn., Athens—Post Office—J. A. Wetmore, superv. archt., Treas. Dept., Wash., received low bids, May 16, (a) limestone, (b) standstone, from W. F. Brent, Bd. of Trade Bldg., Norfolk, Va., (a) $44,204, (b) $44,604; A. Blair, Hill Bldg., Montgomery, Ala., (a) $46,500; W. H. Fisell & Co., 1328 Bway., New York City, (a) $51,000, (b) $52,000. Noted Apr. 19.

O., **Cleveland**—Breakwater and Riprap—U. S. Engr. Office, Cleveland, received bid, May 11, repairing rubble mound east breakwater and riprap in front of west breakwater, from Central Dredging Co., 1105 Swetland Bldg., $85,800. Noted Apr. 19.

Mich., Port Huron—Dredging—U. S. Engr. Office, Detroit, received low bid, Black River, from Great Lakes Dredge and Dock Co., Monroe Bldg., Chicago, 16c. per cu.yd. Noted Apr. 5.

★**Wis., Beaver Dam**—Post Office—J. A. Wetmore, superv. archt., Treas. Dept., Wash., let contract to W. D. Lovell, 1415 8th St., S. E., Minneapolis, $48,325. Noted May 17.

Ia., Cedar Falls—Post Office—J. A. Wetmore, superv. archt., Treas. Dept., Wash., received low bids, May 17, (a) limestone, (b) sandstone, from C. Weitz & Sons Co., 713 Mulberry St., Des Moines, (a) $49,990; Northern Constr. Co., 421 Milwaukee St., Milwaukee, (a) $49,998, (b) $50,980; J. W. Hopp, Cedar Rapids, (a) $50,000, (b) $52,000. Noted May 10.

Ariz., Yuma—Pumping Machinery—U. S. Rec. Ser., Denver, received low bids, at Yuma Valley Drainage Plant, Yuma Project, Arizona, (a) Item 1, (b) Item 2, (c) Item 3, (d) Item 4, (e) Item 5, (f) Item 6, from Fairbanks-Morse & Co., 900 South Wabash Ave., Chicago, (a) $13,939, (b) $11,965, (c) $9060, (d) $9700, (e) $1400, (f) $8; Smith-Booth-Usher Co., 228 Central St., Los Angeles, (a) $12,100, (c) $7550, (e) $650, (f) $7; Western Gas Engine Corp., 900 North Main St., Los Angeles, (a) $9295, (c) $5993, (e) $985, (f) $8.

Cal., Bolinas—Coast Guard Station—U. S. Coast Guard, Wash., received low bids, May 15, from J. E. Johanson, $9988, 100 days; F. Gallagher, $10,190, time Oct. 15; G. Borton & Son, $10,394, time Oct. 1, all of San Francisco. Noted Apr. 5.

★**Cal., Vallejo**—Barracks, Etc.—Bureau Yards and Docks, Navy Dept., Wash., let emergency contract without advertising for 2 barracks and storehouse to Lang & Bergstrom, Sharon Bldg., San Francisco, about $250,000, plus 10%.

Cal., Vallejo—Shell House and Laboratory—Bureau Yards and Docks, Navy Dept., Wash., received low bids from F. Gallegher, 180 Jessie St., San Francisco, $25,100; Lange & Bergstrom, Sharon Bldg., San Francisco, $25,248; H. A. Klyce, Call Bldg., San Francisco, $26,685. Noted Apr. 26.

★**Alaska, Seward**—Buildings—Bureau Yards and Docks, Navy Dept., Wash., let contract radio station buildings and masts to Gutleben Bros., New Call Bldg., San Francisco, $68,516. Noted Apr. 26.

MISCELLANEOUS

Proposed Work

Coal Pocket—Springfield Mass.—See "Reinforced Concrete."

Parks—Camden, N. J.—Council will issue $25,000 bonds for improvements to city parks. D. Jester, pres. L. E. Farnham, city engr.

Oil Pipe Line—Elizabeth, N. J.—See "Industrial Works."

Docks—Newark, N. J.—See "Excavation and Dredging."

Perth Amboy, N. J.—See "Waterworks."

Park—Westfield, N. J.—Council plans to build park. About $35,000. W. Higgins, city engr.

Shipbuilding Slips—Newport News, Va.—See "Industrial Works."

Dam, Etc.—Shenandoah, Va.—City voted $30,000 bonds to build hydro-electric dam and plant.

Garbage Incinerator—Laurens, S. C.—City plans.

Docks—Jacksonville, Fla.—Clyde Steamship Co., foot of Market St., will rebuild docks recently destroyed by fire. Loss, $50,000. W. M. Tupper, supt.

Wharf, Etc.—Chattanooga, Tenn.—City Comn. had plans prepared by J. D. Alsup, James Bldg., for wharf improvements at river, to include construction of dike, paving wharf and purchase of steam crane to load boats and warehouse addition. About $50,000.

Pier—Toledo, O.—See "Buildings."

Dam and Locks—Murphysboro, Ill.—See "Excavation and Dredging."

Transmission Lines—Burlington, Ia.—Burlington Railway & Light Co. plans to connect Burlington with Mediapolis, Morning Dun, Wapello and Winfield, also line from Burlington to Middletown. The energy will be supplied at Keokuk dam to cities and towns north of Burlington. G. H. Walsh, Burlington, secy., treas. and mgr.

Park—Sherman, Tex.—Attorney General's Dept., Austin, approved $50,000 bond issue for park at Red River Valley Fair. O. J. S. Ellingsen, city engr. Noted Feb. 22.

Gas Main—Loco, Okla.—Lone Star Gas Co., 1st Natl. Bank Bldg., Ft. Worth, will lay 16-in. natural gas main from Loco to Gainesville, Tex., where it will connect with pipe line that leads to Ft. Worth and Dallas, Tex.; also new main from Petrolia to Gainesville.

Dock—Seattle, Wash.—Comrs. King Co. will build, on Duwamish Waterway, to serve Pacific Oil Mills, 1816 4th St., S. About $45,000. S. J. Humes, co. engr., Courthouse, 3rd and James Sts., preparing plans.

Bids Desired

Timber Groins—Brooklyn, N. Y.—Until May 31 by C. Ward, pres. Park Bd., Dept. Parks, Municipal Bldg., Manhattan, repairs to 6 timber groynes at Dreamland Park, Coney Island.

Cables—New York, N. Y.—Until May 28 by R. Adamson, fire comr., 11th Floor, Municipal Bldg., furnishing, delivering and installing underground lead-covered cables and appurtenances for Bronx Improvement, Boro. of Bronx.

Pipes, Etc.—New York, N. Y.—Until May 28 by R. Adamson, fire comr., 11th floor, Municipal Bldg., furnishing, delivering and installing subsidiary pipes and upper parts of fire alarm posts, and delivering and installing twin posts and bases and sub-bases for fire-alarm posts for Bronx Improvement, Boro. of Bronx.

Tracks—New York, N. Y.—(Official)—Until June 4 by Pub. Serv. Comn. for 1st Dist., 120 Bway., for installation of tracks for Southern Blvd., Westchester Ave. and Pelham Bay Park branch of Lexington Ave. subway, Bronx boro.

Finishing Hardware—Syracuse, N. Y.—(Official)—Until May 29 by State Fair Comn., 428 South Salina St., for use at Horse Exhibit Bldg., New York State Fair; advertised in this issue.

Trucks—Bayonne, N. J.—Until May 29 by Bd. Comrs. furnishing 2 gasoline flushing and sprinkling trucks. Bidders must furnish list of cities where machines of their manufacture have been in successful operation for 2 years. W. P. Lea, city clk.

Elimination Grade Crossings—Nisqually, Wash.—Until June 4 by State Highway Dept., Olympia, on Pacific Highway, over tracks of Northern Pacific Ry. About $35,000.

Prices and Contracts Awarded

Station Finish—Brooklyn, N. Y.—O. S. Straus, chn. pub. serv. comn., 1st dist., received low bids, May 16, station finish for 9 stations on parts of Broadway, 4th Ave. and Eastern Pkway., Rapid Transit R.R., from J. A. Lewis Contr. Co., Inc., 277 Bway., New York City, $442,000; Snare & Triest Co., Woolworth Bldg., New York City, $464,540; Conners Bros. Co., 64 West 88th St., New York City, $464,790. These are unofficial totals. Noted May 3.

Sheds—New York, N. Y.—See "Structural Steel."

★**Levee—New Orleans, La.**—(Official)—Bd. Levee Comrs., Orleans Levee Dist., New Court Bldg., let contract, 3rd Dist., to V. Lamben, 625 Soland St., $21,340. Noted May 10.

★**Terrace Walls—Jefferson City, Mo.**—Bldg. Com. let contract, south side State Capitol Bldg., to Pope Constr. Co., Jefferson City, $48,000.

★**Fill—Seattle, Wash.**—Port of Seattle Comn. let contract filling and dredging in Salmon Bay to Puget Sound Bridge and Dredging Co., Central Bldg., $28,600, based on unit price of 20c. per cu.yd. Noted May 17.

★**Piers—Halifax, N. S.**—See "Structural Steel."

Brown Portable Elevator Co., of Chicago, Ill., has changed its name to the **Brown Portable Conveying Machinery Co.** The change is made on account of the extended scope of the company's devices.

La Salle Engineering Co. has moved its offices to the Hunter Bldg., Madison and Market Sts., Chicago, Ill. The company recently appointed Norman M. Stinenan, formerly chief engineer of the Chicago, Milwaukee & St. Paul Ry., chief engineer, and I. A. Baum, assistant manager.

Link-Belt Co., 39th St. and Stewart Ave., Chicago, Ill., has printed in colors a portion of President Wilson's proclamation which is of particular interest to everyone at the present time. A copy of same may be obtained free by writing to the Chicago office.

SEWER, CINCINNATI, O.

Contract No. 2

Bids were received by C. F. Hornberger, dir. pub. serv., for Mill Creek Intercepting Sewer, Contract No. 2, from (A) Welling & Franz, 9th and Plum St. (awarded contract); (B) James Duff Construction Co., 603 Marshall Bldg.; (C) Connelly Construction Co., 315 East 8th St.; (D) Kirchner Construction Co., 211 West 9th St., $160,585. The item bids of the 3 lowest bidders were as follows:

	A	B	C
3,300 lin.ft. 69-in. concrete sewer, complete	$28.25	$29.00	$27.50
150 lin.ft. 69-in. concrete sewer, complete (tunnel)	40.00	40.00	40.00
146 lin.ft. 72-in. concrete sewer, complete	45.00	42.00	45.00
25 lin.ft. (spl. sec.) concrete sewer, complete, stat. 0+13.5 to 0+38.5	45.00	41.00	45.00
955 lin.ft. (spl. sec.) concrete sewer, complete, rebuilt 11-ft. trunk sewer	51.00	50.00	55.00
9 manholes (std.) on concrete sewers over 4 in. diam	200.00	240.00	260.00
2 manholes (spl.) on rebuilt 11-ft. trunk	50.00	45.00	45.00
6-in. stub in trunk sewer	0.75	0.60	0.60
8-in. stub in trunk sewer	1.00	0.70	0.80
24-in. stub in trunk sewer	7.00	5.00	6.50
8-in. slant in trunk sewer	1.00	0.80	0.80
12-in. slant in trunk sewer	1.50	1.60	1.60
18-in. slant in trunk sewer	4.00	3.00	3.00
3,630 lin.ft. 8-in. underdrain, complete	0.50	0.60	0.60
960 cu.yd. gravel refill	1.00	1.50	2.00
100 M.ft.b.m. sheeting left in place	30.00	30.00	25.00
100 cu.yd. special excavation	1.00	2.00	2.00
50 cu.yd. concrete masonry, Class 3	8.00	9.50	7.50
Extended totals	$168,638	$170,984	$171,409

Contract No. 4

Bids were received by C. F. Hornberger, dir. pub. serv., for Mill Creek Intercepting Sewer, Contract No. 4, from (A) D. P. Foley, Park Ave.; (B) Kirchner Construction Co., 211 West 9th St.; (C) T. P. Strack, Goodall Bldg.; (D) Thurber & Browning Co., Goodall Bldg., $173,113. The item bids of the 3 lowest bidders were as follows:

	A	B	C
2,320 lin.ft. 90-in. concrete sewer, complete	$35.20	$38.00	$38.00
300 lin.ft. 90-in. concrete sewer, complete, pile section	40.55	40.00	40.00
1,000 lin.ft. 93-in. concrete sewer, complete	38.50	39.50	39.00
50 lin.ft. 93-in. concrete sewer, complete, pile section	40.70	42.00	40.00
4 manholes (std.) on concrete sewers, over 4 ft. diam	300.00	240.00	300.00
3 manholes, drop, on concrete sewer	300.00	325.00	325.00
2 manholes, intercepting	150.00	150.00	150.00
Junction chamber, complete	1,025.00	1,500.00	725.00
30 lin.ft. 8-in. vit. pipe sewer, complete	2.00	2.00	2.00
15 lin.ft. 12-in. vit. pipe sewer, complete	2.50	2.50	2.00
8-in. slant in trunk sewer	1.00	1.00	2.00
27-in. slant in trunk sewer	10.00	10.00	10.00
3,700 lin.ft. 8-in. underdrain, complete	0.50	0.50	0.75
1,000 cu.yd. gravel refill	2.00	2.00	2.00
5,250 lin.ft. piles	1.00	0.50	0.75
45 M.ft.b.m. timber foundation	40.00	28.00	35.00
50 M.ft.b.m. sheeting left in place	30.00	30.00	20.00
300 cu.yd. special excavation	2.00	2.00	2.00
Cast iron grating in place	15.00	15.00	15.00
2 cu.yd. concrete masonry, class 1	12.00	12.00	12.00
45 cu.yd. concrete masonry, class 2	10.00	9.00	10.00
20 cu.yd. concrete masonry, class 3	7.50	8.00	7.50
Extended totals	$159,739	$159,265	$160,211

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until May 29, 1917

Canal Work

STATE OF NEW YORK, SUPERINTENDENT OF PUBLIC WORKS

Albany, April 27th, 1917.

Sealed proposals will be received by the undersigned at his office in the Capitol at Albany, N. Y., until twelve o'clock noon of Tuesday, May 29th, 1917, at which place and hour they will be publicly opened and read, for improving the Cayuga and Seneca canal pursuant to the provisions of Chapter 391 of the Laws of 1909, and Chapter 147 of the Laws of 1903, and amendatory laws, and for improving the New York State canals pursuant to the provisions of Chapter 147 of the Laws of 1903, and of the acts amendatory thereof and supplementary thereto, and Chapter 570 of the Laws of 1915, as follows:

—1—

CONTRACT "P."

Cayuga and Seneca Canal—Section 1.

For constructing a concrete cut-off wall below the walls of Lock No. 3, Seneca Falls.

Sheets 1 and 2.

—2—

CONTRACT NO. 144.

Erie Canal—Section 9.

For constructing two concrete bridges over Red creek in Genesee Valley Park, Rochester.

Sheets 1 to 10, inclusive.

And for the construction of Barge canal terminals pursuant to the provisions of Chapter 746 of the Laws of 1911, and of the acts amendatory thereof, as follows:

—3—

TERMINAL CONTRACT NO. 44.

For constructing a Barge canal terminal at Mott Haven, near East 138th street, borough of the Bronx, New York.

Contract plans, sheets 1-9.

Plans may be seen and detailed specifications, engineer's estimate of quantities, proposal blanks, form of contract and bonds required and other information for proposers may be had at the office of the Superintendent of Public Works at Albany, N. Y., at the office of the Assistant Superintendent of Public Works for the Middle Division at Syracuse, N. Y., at the office of the Assistant Superintendent of Public Works for the Western Division at Rochester, N. Y., and at the canal office, Spaulding's Exchange, Buffalo, N. Y.

Copies of detailed plans or drawings may be obtained from the State Engineer and Surveyor at Albany, N. Y., upon payment to him of the cost of producing them.

Monthly estimates will be paid of ninety per centum (90 per cent.) of the work done at the contract price. Every proposal for said work must be accompanied by a money deposit in the form of a draft or certified check upon some good banking institution in the city of Albany or New York, issued by a national or state bank (or trust company in the case of terminal contract) in good credit within the state and payable at sight to the Superintendent of Public Works for five per centum (5 per cent.) of the amount of the proposal.

The person whose proposal shall be accepted will be required to execute a contract and furnish bonds within ten days from the date of notice of award delivered to him or them in person or mailed to the address given in the proposal.

Upon execution of the contract and approval of bonds, the certified check or draft will be returned to the proposer unless the same shall have been presented for collection prior to such time, in which case the amount of the deposit will be refunded by the Superintendent of Public Works.

The deposits of bidders other than the one to whom the award of contract shall be made will be returned immediately after the award has been made.

The bond required for the faithful performance of each contract shall be in such sum as shall be fixed by the Superintendent of Public Works, which sum shall not be less than twenty per centum (20 per cent.) of the estimated cost of the work according to the contract price, and an additional bond, known as the labor bond, in the sum of ten per centum (10 per cent.) of the amount of the estimated cost of the work according to the contract price, will be required as security that the contractor will pay in full at least once in each month all laborers employed by him upon the work specified to be done in the contract.

In the event that more than one surety company is offered as surety on said bonds co-insurance only will be accepted.

Each proposal must be addressed to the Superintendent of Public Works, Albany, N. Y., and must be endorsed on the envelope with the name of the construction for which the proposal is made.

Award, if made, will be made to the person or persons whose proposal shall be lowest in cost to the State for doing the work, and which shall comply with all provisions required to render it formal. Before any award shall be made the lowest bidder will be required to satisfy the Superintendent of Public Works of his ability to provide suitable equipment and materials for the proper performance of the work.

The right is reserved to reject all proposals and readvertise and award the contract in the regular manner if, in the judgment of the undersigned, the interests of the state will be enhanced thereby.

W. W. WOTHERSPOON,
Superintendent of Public Works.

UNITED STATES ENGINEER OFFICE, Room 710 Army Building, 39 Whitehall Street, New York, N. Y.—Sealed proposals for dredging in Hudson River, N. Y., will be received here until 12 M., June 11, 1917, and then opened. Further information on application.

Official Proposals

Price, $3.60 an inch—Copy can be received until Wednesday, 10 a. m. for issue mailed the next day

PROPOSALS

Bids received until May 28, 1917.

Highway Work

OFFICE OF THE STATE COMMISSION OF HIGHWAYS

Albany, N. Y.

Sealed proposals will be received by the undersigned at their office, No. 55 Lancaster Street, Albany, N. Y., at one o'clock P. M., on Monday, May 28th, 1917, for the repair of highways in the following counties:

ALBANY (two contracts—reconstruction and resurfacing)
CAYUGA (one contract—resurfacing)
COLUMBIA (one contract—reconstruction)
ESSEX (one contract—resurfacing)
GREENE (two contracts—surface treatment and reconstruction)
HERKIMER (one contract—surface treatment)
JEFFERSON (one contract—resurfacing and surface treatment)
NIAGARA (one contract—resurfacing)
ONTARIO (one contract—resurfacing)
ORLEANS (one contract—resurfacing)
OTSEGO (one contract—reconstruction)
RENSSELAER (one contract—surface treatment)
SARATOGA (one contract—resurfacing)
SENECA (one contract—resurfacing)
SUFFOLK (two contracts—surface treatment and resurfacing)
ULSTER (one contract—resurfacing)
WASHINGTON (two contracts—resurfacing and surface treatment)
WESTCHESTER (one contract—reconstruction)

ALSO FOR THE IMPROVEMENT OF HIGHWAYS IN THE FOLLOWING COUNTIES:

COLUMBIA (approx. 7.77)
JEFFERSON (approx. 0.66)

Maps, plans, specifications and estimates may be seen and proposal forms obtained at the office of the Commission in Albany, N. Y., and also at the office of the Division Engineers in whose division the roads are to be improved. The addresses of the Division Engineers and the counties in which they are in charge will be furnished on request.

The especial attention of bidders is called to "GENERAL INFORMATION FOR BIDDERS" on the itemized proposal, specifications and contract agreement.

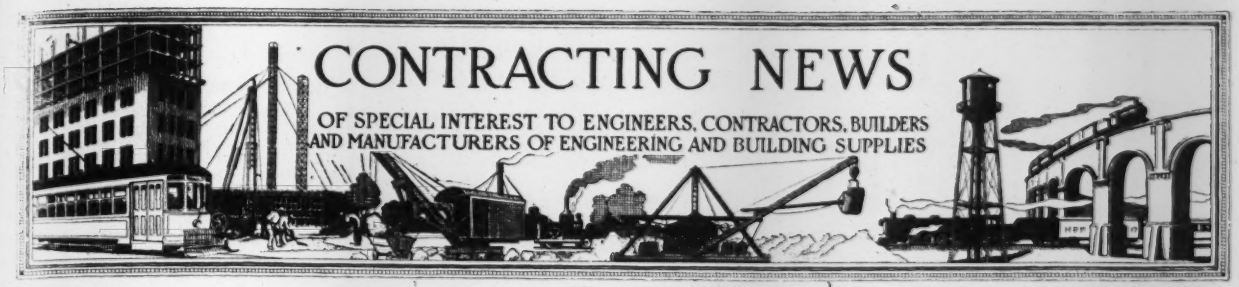
EDWIN DUFFEY.
I. J. MORRIS, Commissioner.
Secretary.

Bids received until June 4, 1917.

Rubble Mound Jetty

Newport Beach, Cal.

City Hall, Newport Beach, California. Sealed proposals for constructing a rubble mound jetty for the City of Newport Beach, California, at the entrance of Newport Bay, California, will be received at the office of the City Clerk, City Hall, Newport Beach, California, until 7:30 p.m. June 4, 1917, and then publicly opened. Copies of plans, specifications and contract forms may be obtained upon deposit of Ten ($10.00) Dollars on application to Leeds & Barnard, Consulting Engineers, 1103-7 Central Bldg., Los Angeles, Calif. Signed by Claude M. Crego, Clerk of the City of Newport Beach, Calif.



Proposals

For Proposals Advertised See Pages 77 to 83 Inclusive

WATERWORKS

Bids Close.		See Eng. News-Record.
June 1.	Madison, W. Va.	May 31
June 4.	Barrow, Wis.	May 24
June 4.	McMinnville, Ore.	May 31
June 4.	Milbank, S. D.	May 24
June 4.	Brooklyn, N. Y.	May 31
June 4.	Titusville, Pa. Adv. May 24 and 31.	May 31
June 5.	Constantine, Mich.	May 24
June 5.	Clinton, Miss.	May 31
June 6.	Trail, B. C.	May 31
June 8.	West Haverstraw, N. Y. Adv. May 24 and 31.	May 24
June 12.	Kendallville, Ind. Adv. May 24 and 31.	May 31
June 15.	Niles Mich.	May 31
June 18.	Wadsworth, O.	May 31

SEWERS

June 2.	Burlington, Wis.	May 10
June 5.	Newark, N. J. Adv. May 24 and 31.	May 10
June 2.	Sioux City, Ia.	May 31
June 4.	Covington, Va.	May 31
June 4.	Fitchell, S. D. Adv. May 24 and 31.	May 31
June 4.	Warren, Minn.	May 31
June 4.	Wilburton, Okla.	May 31
June 4.	Mt. Pleasant, Pa.	May 31
June 5.	Auburn, N. Y.	May 10
June 5.	Oklahoma, Okla. Adv. May 3 to May 17.	May 24
June 6.	Huntington, W. Va.	May 24
June 7.	Cleveland, O.	May 31
June 7.	Brooklyn, N. Y.	May 31
June 8.	New York, N. Y.	May 31
June 11.	Los Angeles, Cal.	May 31
June 12.	Newark, N. J.	May 17
June 12.	Yuma, Ariz.	May 31
June 19.	Newark, N. J.	May 24
June 19.	Newark, N. J.	May 31
June 28.	Chicago, Ill. Adv. May 24.	May 24

STRUCTURAL STEEL WORK

June 4.	Fairfield, Cal.	May 24
June 4.	Ft. Worth, Tex.	May 31
June 4.	Jackson, Ky.	May 31
June 5.	Oacoma, S. D.	May 24
June 5.	Miller, S. D.	May 24
June 5.	Parker, S. D.	May 24
June 5.	Mt Vernon, Wash.	May 24
June 6.	Dayton, O.	May 17
June 6.	Providence, R. I.	May 31
June 7.	Coquille, Ore.	May 24
June 8.	New Ulm, Minn.	May 24
June 9.	Cleveland, O.	May 31
May 19.	Winchester, Ill.	May 31
June 20.	Salem, Ore. Adv. May 31.	May 31

REINFORCED CONCRETE

June 4.	Olympia, Wash.	May 24
June 4.	Hollister, Cal.	May 24
June 4.	Montgomery, Minn.	May 31
June 4.	Sioux Falls, S. D.	May 31
June 4.	Lawrence, Mass. Adv. May 31.	May 31
June 5.	Elkader, Ia. Adv. May 24 and 31.	May 17
June 5.	Oswego, Kan.	May 24
June 5.	Leola, S. D. Adv. May 24 and 31.	May 31
June 6	Winfield, Kan.	May 24
June 7.	Toledo, Ia.	May 31
June 7.	Elsmere, Del	May 31
June 8.	San Diego, Cal.	May 31
June 9.	Middlebury, Pa.	May 31
June 11.	New Philadelphia, O.	May 24
June 11.	Sunbury, Pa.	May 31
June 19.	Luverne, Minn.	May 31
June 20.	Canton, O.	May 31
June 21.	Columbus, O.	May 31

STREETS AND ROADS

June 2.	Dayton, O.	May 17
June 2.	Lakewood, N. J. Adv. May 17 and 24.	May 17
June 2.	New Cumberland, W. Va.	May 31
June 4.	Mishawaka, Ind.	May 10
June 4.	Westfield, N. J. Adv. May 17.	May 17
June 4.	Woodland, Cal.	May 24
June 4.	Covington, Va.	May 24
June 4.	Wooster, O.	May 24
June 4.	De Kalb, Miss.	May 31
June 4.	Linden, Ala.	May 31
June 4.	Raymond, Miss.	May 31
June 4.	Indiana	May 31
June 4.	Staten Island, N. Y.	May 31
June 4.	California	May 31
June 5.	Boulder, Colo.	May 17
June 5.	Indiana	May 17
June 5.	Yadkinville, N. C.	May 17
June 5.	Oklahoma, Okla.	May 24
June 5.	Coalgate, Okla.	May 24
June 5.	Johnson City, Tenn.	May 24
June 5.	Meridan, Miss.	May 31
June 5.	Wilmington, Del.	May 31
June 5.	Hatiesburg, Miss.	May 31
June 5.	Sacramento, Cal.	May 31
June 5.	Indiana	May 31
June 5.	Defiance, O.	May 31
June 5.	Rushville, Ind.	May 31
June 6.	Bay Minette, Ala.	May 24
June 6.	Visalia, Cal.	May 24
June 6.	Indiana	May 17
June 6.	Baltimore, Md.	May 31
June 6.	Kansas City, Mo.	May 31
June 6.	New Augusta, Miss.	May 31
June 6.	Indiana	May 31
June 6.	Hackensack, N. J.	May 31
June 6.	Fairbury, Neb.	May 31
June 6.	Burton, O.	May 31
June 6.	Cincinnati, O.	May 31
June 6.	Weehawken, N. J.	May 31
June 6.	Atlanta, Ga.	May 31
June 6.	Lebanon, O.	May 31
June 7.	Indiana	May 17
June 7.	Coquille, Ore.	May 31
June 7.	Indiana	May 31
June 7.	Trenton, N. J.	May 31
June 7.	Brooklyn, N. Y.	May 31
June 7.	New York, N. Y.	May 31
June 7.	Claridon, O.	May 31
June 8.	Crowley, La.	May 10
June 8.	South Bend, Wash.	May 31
June 10.	Seattle, Wash.	May 24
June 11.	Fayetteville, W. Va.	May 17
June 11.	Seattle, Wash.	May 31
June 11.	Olympia, Wash.	May 31
June 11.	Camden, N. J.	May 31
June 12.	Harrisburg, Pa. Adv. May 24 and 31.	May 17
June 12.	Thief River Falls, Minn.	May 31
June 12.	Florence, Ariz.	May 31
June 12.	Harrisburg, Pa.	May 31
June 12.	Troy, Ala.	May 31
June 14.	Fairmont, W. Va.	May 24
June 14.	Dayton, O.	May 31
June 15.	Wynne, Ark. Adv. May 31.	May 31
June 15.	Cleveland, Tenn.	May 31
July 1.	Pine City, Minn.	May 31
June 18.	Ft. Ransom, N. D.	May 31
June 18.	New Brunswick, N. J.	May 31
Aug. 13.	Lewiston, Idaho	May 24
June 19.	Belvidere, N. J.	May 31

EXCAVATION AND DREDGING

June 5.	Fremont, Neb.	May 17
June 5.	Tallahassee, Fla. Adv. May 24 and 31.	May 24
June 5.	Grundy Center, Ia.	May 24
June 5.	Ada, Minn.	May 31
June 5.	Mason City, Ia.	May 31
June 6.	Owatonna, Minn.	May 24
June 6.	Bloomfield, Mo.	May 31
June 7.	Madison, S. D. Adv. May 17 and 24.	May 17
June 8.	Charles City, Ia.	May 31
June 11.	Greenville, Miss.	May 31
June 12.	Fresno, Cal.	May 24
June 12.	Crookston, Minn.	May 31
June 13.	Bloomfield, Mo.	May 31
June 14.	Lonoke, Ark. Adv. May 17.	May 17
June 15.	Algona, Ia.	May 31
June 18.	Petersburg, Ind.	May 24
June 18.	Opelousas, Ia.	May 31
June 22.	Chaska, Minn.	May 31
June 26.	Albany, N. Y. Adv. May 31.	May 31

BUILDINGS

Bids Close.		See Eng. News-Record.
June 2.	Redfield, S. D.	May 10
June 2.	Wheeling, W. Va.	May 24
June 4.	Drake, N. D.	May 17
June 4.	College Springs, Ia.	May 24
June 4.	Fargo, N. D.	May 24
June 4.	Norwood, Mass.	May 31
June 4.	Colbert, Okla.	May 31
June 4.	New York, N. Y.	May 31
June 4.	Pawling, N. Y.	May 31
June 4.	Lockport, Ind.	May 31
June 5.	Ness City, Kan.	May 17
June 5.	Centerville, Ia.	May 24
June 5.	Metcalf, Ariz.	May 31
June 5.	Senatobia, Miss.	May 31
June 5.	Clarendon, Tex.	May 31
June 6.	Canton, O.	May 17
June 7.	York, Neb.	May 31
June 8.	Dublin, O.	May 31
June 9.	Jacksonville, Fla.	May 17
June 9.	Randolph, Ia.	May 24
June 9.	Greenville, O.	May 31
June 10.	Isabella, Tenn.	May 31
June 11.	Cleveland, O.	May 24
June 11.	Urbana, Ill. Adv. May 31.	May 31
June 12.	New York, N. Y.	May 31
June 12.	Vandergrift, Pa.	May 24
June 12.	Centerville, Ia.	May 31
June 15.	Lakota, N. S.	May 24
June 15.	Miami, Okla.	May 31
June 18.	Austin, Tex.	May 31
June 18.	Epworth, Ia.	May 31
June 19.	Clearwater, Fla.	May 31
June 22.	Lebanon, O.	May 31

FEDERAL GOVERNMENT WORK

June 2.	Washington, D. C.	May 24
June 4.	Sanford, Fla.	May 10
June 4.	Wilmington, Del. Adv. May 24 and 31.	May 17
June 4.	Washington, D. C.	May 24
June 4.	Norfolk, Va.	May 31
June 4.	New York, N. Y.	May 31
June 4.	Washington, D. C.	May 31
June 5.	Olney, Ill.	May 3
June 6.	Orange, Tex.	May 3
June 6.	Golden Gate, Cal. Adv. May 24 and 31.	May 17
June 6.	Ft. Laramie, Wyo.	May 17
June 6.	Ft. Andrews, Mass.	May 24
June 7.	Marion, Ill.	May 3
June 7.	Cape Henry, Va.	May 24
June 8.	Denton, Tex.	May 17
June 9.	Montgomery, Ala. Adv. May 17 and 24.	May 17
June 11.	Bridgeport, Conn.	May 17

Close. Bids.		News-Record. See Eng.
June 11.	New York, N. Y. Adv. May 17 and 24.	May 17
June 11.	Washington, D. C.	May 24
June 11.	Ft. Mifflin, Pa.	May 31
June 11.	Phila., Pa.	May 31
June 12.	State College, Pa. Adv. May 17 and 24.	May 17
June 14.	Washington D. C. Adv. May 24 and 31.	May 31
June 14.	Cherryvale, Kan.	May 17
June 14.	Three Rivers, Cal.	May 17
June 14.	Ft. Bliss, Tex. Adv. May 24 and 31.	May 24
June 14.	Wash., D. C.	May 24
June 14.	Washington, D. C. Adv. May 24-31.	May 31
June 15.	Memphis, Tenn. Adv. May 24 and 31.	May 24
June 16.	Montgomery, Ala. Adv. May 24 and 31.	May 17
June 18.	Akron, O.	May 17
June 18.	Pensacola, Fla.	May 31
June 19.	Montevideo, Minn.	May 17
June 19.	Aledo, Ill. Adv. May 24 and 31.	May 17
June 20.	Beaufort, S. C. Adv. May 17.	May 17
June 20.	Ft. Royal, Va.	May 31
June 20.	Galveston, Tex. Adv. May 24 and 31.	May 31
June 21.	Cambridge, Md.	May 17
June 22.	Fordyce, Ark. Adv. May 17 and 24.	May 24
June 23.	Raton, N. M.	May 17
June 23.	New York, N. Y. Adv. May 24 and 31.	May 31
June 25.	Washington, D. C.	May 31
June 25.	New Orleans, La. Adv. May 31.	May 31
June 26.	Monessen, Pa.	May 31
June 28.	New Orleans, La. Adv. May 31.	May 31
June 28.	Detroit, Mich. Adv. May 31.	May 31

MISCELLANEOUS

Bids Close.		See Eng. News-Record.
June 4.	Jetty—Newport Beach, Cal. Adv. May 17 to 31.	May 17
June 4.	Tracks—New York, N. Y.	May 24
June 4.	Fire Alarm System. Placerville, Cal.	May 31
June 5.	Transmission Line. Ft. Dodge, Ia.	May 31
June 7.	Castings, New York, N. Y.	May 31
June 7.	Tunnel Improvements, Boston Mass.	May 31
June 8.	Fire Escapes—Rochester, N. Y. Av. May 31.	May 31

Where name of official is not given, inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATER-WORKS

Proposed Work

N. J., Asbury Park—City plans to install 6,000,000-gal. pump at pumping plant. S. H. Calvert, clk.

Va., Richmond—(Official)—City making surveys 11-mi. recently annexed territory with view to installing water, sewer and gas mains, pavements, and parks. C. E. Bolling, city engr.

Ga., Swainsboro—(Official)—City defeated bonds installing water and sewerage systems. G. P. Edenfield, clk.

Ala., Talladega—City plans to install new water supply system. About $145,000 available for work. A. G. Weldon, clk. Noted Apr. 19.

La., Slidell—See "Streets and Roads."

Tenn., Arlington—City plans to install waterworks and lighting plant.

Tenn., Paris—City voted $40,000 bonds part of proceeds to be used to build filtration plant. M. W. Younkin, supt.

O., Chardon—City voted bonds to install waterworks.

O., Defiance—F. G. Gettrost, cons. engr., Kent, submitted report to City Council estimating cost filtration plant using of Maumee River as water supply, at $65,000.

Ia., Sioux City—City plans to extend Main St. pumping station. About $50,000. J. M. Lewis, supt.

Minn., Remer—(Official)—City to sell $10,000 bonds for waterworks and $3500 for sewers, June 9. Noted May 10.

Kan., Hays—City having plans prepared by E. T. Archer & Co., engrs., 609 New England Bldg., Kansas City, Mo., for improving water and light plants. About $50,000.

Kan., Parsons—City plans to install waterworks. About $600,000 to $700,000. F. E. Workman, supt.

Kan., Tipton—City voted $20,000 bonds for water-works. G. P. Taylor, Stockton, engr. Noted May 3.

Kan., Utica—City voted $22,000 bonds for water-works. G. Taylor, Stockton, engr.

Mont., Billings—City voted $50,000 bonds to install water and light plant and sewers. MacIntosh-Walton Engr. Co., 1023 State Natl. Bank Bldg., Oklahoma, engrs.

Tex., Abilene—City Comn. considering installation of new water-works pumping plant and development of project for supplying city with inexhaustible quantities pure water. Plans involve expenditure of $150,000 to $500,000. W. A. Rincy, city engr.

Okla., Altus—Council plans to build additional reservoir for water supply.

Okla., Broken Bow—Council plans election to vote on bonds to install water system.

Okla., Commerce—City plans election to vote on bonds to install water system.

Okla., Enid—City election soon to vote on bonds to improve water-works system. Noted May 24.

Okla., Ramona—Bd. Pub. Wks. approved $40,000 bonds to extend water system. U. G. Besett, pres.

Okla., Wirt—City preparing plans to install water system.

Idaho, Weiser—City plans to install new water and sewerage systems.

Wash., Ritzville—Northern Pacific Ry. plans to build 50,000-gal. redwood water-tank on concrete piers. H. E. Stevens, 5th and Jackson St., St. Paul, ch. engr.

Wash., Steilacoom—City voted $20,000 bonds to purchase and improve local water system.

Que., Granby—Council plans to improve water system. About $60,000. W. S. and R. S. Lea, 10 Cathcart St., Montreal, engrs.

Que., Matane—City soon receives bids for aqueduct. About $60,000.

Ont., Oshawa—Council having plans prepared for filtration system. About $40,000. W. G. Worden, engr.

Ont., Port Dover—City plans election in August to vote on $65,000 bonds to install water and sewerage systems. J. Sloan, clk.

Ont., Toronto—Council plans to install water mains in Kipling Ave. and 5th St. G. D. Scott, clk.

Alta., Calgary—City Comrs. received 2 reports from G. W. Craig, city engr., for improving water system, 1 is to run Elbow River pipe, 2-mi. up river, and install new intake to increase supply to 5,000,000 gal. clear water per day, cost, $111,000; other to build addition to present reservoir and install coagulation plant, cost $101,000.

BIDS DESIRED

N. Y., Brooklyn—Until June 4 by W. Williams, comr. water supply, gas and electricity, Room 2351 Municipal Bldg., New York City, furnishing, delivering and laying water mains and appurtenances in Atlantic, Highland, Manhattan, Neptune, Poplar, Seagate and Surf Aves., in grounds of Seagate Assn.

Pa., Titusville—(Official)—Until June 4 by W. M. Dame, city clk., furnishing pump at waterworks; advertised in this issue. Noted Apr. 5.

W. Va., Madison—Until June 1 by Madison Utilities Co., recently incorporated, for plant, 100,000-gal. capacity, 30-hp. gas engine, 2 duplex pumps and reservoir, 80,000-gal. capacity. About $20,000. S. E. Brady, engr.

Mich., Niles—Until June 15 by Bd. Pub. Wks. for boring 4- and 6-in. well, guaranteed capacity of 55,000-gal. every 24 hrs. R. R. Hardy, clk.

O., Wadsworth—Until June 18 by Village installing filtration plant, 1,500,000-gal. capacity. About $30,000. F. W. Boyer, mayor. R. Buckley, engr.

Ind., Kendallville—(Official)—Until June 12 by O. E. Michaelis, city clk., improvements to water system; advertised in this issue.

Mich., Niles—Until June 15 by Pub. Wks. for installing 2000-ft. 8-in., 600-ft. 6-in., and 1350-ft. 4-in. c.i. water line, 950-ft. 12-in., and 1010-ft. 10-in. sewer.

B. C., Trail—Until June 6 by W. E. Monpenny, city clk., laying 27,300 lin.-ft. 4- to 12-in. steel water mains, necessary hydrants and valves, building 1,000,000-gal. distribution reservoir, works in connection with Violin Lake storage reservoir. A. L. McCulloch, Nelson, engr.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**N. Y., Sherburne**—Bd. Water Comrs. let contract auxiliary water-works to J. M. Holler, 413 Western Ave., Albany.

★**N. J., Newark**—Bd. St. & Water Comrs. let contract raising dam of Oak Ridge Reservoir to Heyman & Goodman, 15 Exchange Pl., Jersey City, $71,422. Noted May 10.

★**N. C., Ft. Caswell**—City let contract 9500-ft. submerged water pipe between Southport and Ft. Caswell to Noland-Clifford Co., Inc., Newport News, Va.; $29,432.

★**La., Lafayette**—City let contract 6- to 12-in. water mains to Central Foundry Co., Bessemer, Ala., $30,000.

O., Dayton—City received low bids pumping station on Germantown St., from C. Kelso, 1005 Reibold Bldg., $26,000.

★**Ill., Casey**—(Official)—City let contract water mains to T. A. Hardman, Olney, $14,300.

★**Wis., Neillsville**—City let contract 500-gal. per min. electric pumping unit, pressure filter plant ½-gal. per day capacity, to New York Continental Jewel Filtration Co., Harris Trust Bldg., Chicago.

★**Minn., Staples**—See "Reinforced Concrete."

★**Kan., Tonganoxie**—City let contract tank and tower for water-works to Chicago Bridge & Iron Co., 37 West Van Buren St., Chicago.

★**N. D., Stanley**—(Official)—City let contract installing water system to Empire Constr. Co., Minot, $33,000; sewerage system to G. Kemper, Minot, $11,000.

★**Okla., Checotah**—City let contract improveing water-works to D. Tolbert, Drumright.

SEWERS

Proposed Work

Conn., Orange—(Official)—Town retained Palmer & Lynch, engrs., P. O. Box 4, West Haven, to make surveys for sanitary sewerage sysetm in Prospect Beach section.

N. J., Phillipsburg—Town soon lets contract installing sewage disposal plant and sewerage system. About $50,000. R. P. Howell, town engr.

Va., Norfolk—See "Streets and Roads."

Va., Richmond—See "Water-Works."

Ga., Swainsville—See "Water-Works."

La., Lafayette—City plans to install sewerage system. About $90,000.

O., Alliance—City plans to install sewers in East State and Keystone Sts., South Seneca Ave., alley east of Webb St., and portions Harrison St. W. Shidler, city engr.

O., Fostoria—City rejected bids installing sewers in Findlay St. New bids. C. A. Latshaw, city engr.

O., Lima—City retained G. W. Fuller, cons. engr., 170 Bway., New York City, to make surveys for improvement of sewerage system. C. Bryson, city engr.

O., Marion—City soon lets contract installing sewers between Boots and Gallatin Sts. from 15th to 26th St. T. E. Petrie, city engr.

Mich., Alma—City plans to install sewerage system. About $103,579.

Ia., Davenport—City plans to improve sewers in Oak, Rock Island and Valley Sts. About $100,000. J. W. Crowley, comr. pub. wks.

Minn., St. Paul—Council approved plans enlarging sewer on Otto Ave. and installing sewers in Otto, Lexington, Watson, Hamline and Pascal Aves., Niles and Juno Sts., and Edgecumb Rd. O. Claussen, city engr. Noted May 10.

Mont., Billings—See "Water-Works."

Ark., Stuttgart—City plans to install sewerage system in northern section to be known as Sewer Dist. No. 4. About $28,000.

Idaho, Weiser—See "Water-Works."

Cal., Los Angeles—City election June 5 to vote on $1,750,000 bonds to install outfall sewers, etc. H. Hamlin, city engr.

B. C., Trail—A. L. McCulloch, engr., estimates cost installing 5-mi. sewers at $37,200.

BIDS DESIRED

N. Y., Brooklyn—Until June 7 by L. H. Pounds, boro. pres., furnishinging all labor and materials required to construct sewers in portions of Ralph Ave., Aves. M and Q, Kings Highway, West 7th, West 9th, West 10th, East 14th, East 15th and East 60th Sts.; sewer basins on Logan St. and 17th Ave.

N. Y., New York—Until June 8 by M. M. Marks, boro. pres., for Contract No. 2, tunnel relief sewer and appurtenances in portion West 46th St. (readvertised).

N. J., Newark—(Official)—Until June 19 by Passaic Valley Sewerage Comrs., Essex Bldg., Clinton St., for furnishing and building three 60-kv.-a. engine-driven generating sets, complete with steam and exhaust, piping, switchboards, wiring and appurtenant work for Newark Bay Pumping station.

Sewers (Continued)

Pa., Mt. Pleasant—Until June 4 by Town for 1149-ft. 8-in. sewer in North Vine St., containing 4 manholes. A. A. Overholt, secy.

Va., Covington—Until June 4 by E. B. Butler, mayor, for extending sewerage system involving 8455 lin.ft. 12-, 15-, 18-, 24-, 30 and 6-in. terra cotta pipe, 80 specials, trenching and laying pipe, etc. C. P. Barnett, Savings Bank Bldg., engr.

Tenn., Cleveland—See "Streets and Roads."

O., Cleveland—Until June 7 by City installing sewers in portions Pratt and Euclid Aves., and East 119th St. R. Hoffman, city engr.

Mich., Niles—See "Water-Works."

Ia., Sioux City—(Official)—Until June 2 by C. Kloster, city clk., installing storm sewers in portions Nebraska and Pearl Sts. also 8-in. sanitary sewer portion South Fowler St. T. H. Johnson, city engr.

Minn., Warren—Until June 4 by J. R. Naeseth city recdr., for extension to present sewerage system.

S. D., Mitchell—Until June 4 by R. E. Davis, city aud., installing storm sewers in South Sanborn St., involving 768-ft. 18-in., vitr. sewer pipe, 732-ft. 15-in., 411-ft. 12-in., 530-ft. 10-in. branch "AV"; sanitary sewer in Mitchel Sewer Dist. No. 1, 366-ft. 10-in., vitr. sewer, 783-ft. 8-in., 3 manholes branch "AW" 2970-ft. 8-in., 7 manholes.

Okla., Wilburton—Until June 4 by City installing system of sanitary sewers and disposal plant. E. M. Cooper, mayor.

Ariz., Yuma—Until June 12 by S. F. Stanley, city clk., installing sanitary and storm sewers. About $30,000. E. W. Dahl, city engr.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Mass., Boston**—City let contract installing sewerage works, Spring St., Brook conduit, to West Roxbury Trap Rock Co., Boston, $11,236.

★**Mass., Boston**—Bd. Pub. Wks. let contract installing sewerage works in Atlantic Ave., Summer St. and Belcher Lane to M. H. Loomie, 73 Gibson St., Dorchester, $31,191.

N. Y., Long Island City—(Official)—Boro. received low bids sewers and appurtenances in (a) 48th St., (b) Park Ave., (c) Fulton St., (d) Forest Pkway., (e) Hancock St., (f) Alburtis Ave., (g) Beaufort Ave., (h) Beach 130th St., (i) Beach 117th St., (j) Leggett Ave., (k) temporary drain in 72nd Ave., from Green Contr. Co., 734 Verona Ave., Astoria, (a) $11,198; (f) $21,989; (j) 2 sections, (1) $10,704, (2) $10,646; Murphy Bros., Montague St., Brooklyn, (b) $3099, (c) $15,240, (g) $2378; J. L. Sigretto, (c) $13,-967, (f) $20,910, (j) $10,246; J. Kenmore, Contr. Co. (d) $15,413; Peace Bros., 20 Main St. Flushing (h) $200 (i) $1966, (k) 2 bids, $10,591 and $24,135, respectively. Noted May 10.

N. Y., New York—(Official)—M. M. Marks, boro. pres. received low bids alteration and improvement to sewer portion Madison Ave. from Riley Contr. Co., 150 Nassau St., $20,492.

★**Pa., Hazleton**—City let contract installing sewers in Diamond Ave., Arthur, Arlo Ruth, Grant, Peace, 17th and 19th Sts. to J. Corelli, $42,315.

★**O., Cleveland**—City let contract installing sewers in West 117th St. W. P. Gibbons Contr. Co., 340 Leader-News Bldg., $71,338; Ivanhoe Rd., River Constr. Co., 12109 Mayfield Rd., $27,-015; West 110th St., J. Winterbottom, $20,525, Nottingham Rd., A. Morra, $27,606.

O., Greenville—City received low bids installing sewers in Sweitzer and Vine Sts. from Karch & White, Celina, $29,687 and $14,522 respectively.

★**Ind., South Bend**—City let contract installing Portage trunk sewer to Hoban & Roach, South Bend, $59,973; sewers in High and Erwin Ave. to T. H. Webster, South Bend, $29,605.

★**N. D., Stanley**—See "Water-Works."

STRUCTURAL STEEL

Proposed Work

Pa., New Castle—(Official)—Co. Comrs. rejected bids 219-ft. truss steel span over Neshannock Creek on Mill St. J. R. Lamoree, clk. Noted May 10.

S. C., Gaffney—Cherokee Co. Comrs., Gaffney, and York Co. Comrs., York, will let contract in June building inter-county bridge over Broad St. About $24,000.

Tenn., Knoxville—Comrs. authorized $150,000 bond issue to build viaducts and approaches J. B. Calla, city engr.

Tenn., Morley—Queen & Crescent Coal Co., Williamsburg, Ky., soon lets contract 70- to 80-ft. steel bridge over Hickory Creek. G. G. Croley, genl. mgr.

Wis., Prairie du Chien—Prairie du Chien & Wyalusing Bridge Co., recently organized, will build, maintain and operate toll bridge over Wisconsin River between Prairie du Chien and Wyalusing. About $50,000. J. S. Earll, pres.

Minn., Duluth—City to sell $50,000 bonds June 18 to repair bridges. A. Auger, clk.

Mont., Havre—Co. Comrs. plan to build steel bridge over Milk River. About $15,000.

Okla., Chandler—See "Streets and Roads."

Colo., Oroville—Great Western Power Co., 14 Sansome St., San Francisco, plans to build steel bridge over Feather River.

Wash., Mt. Vernon—County rejected bids improving Mt. Vernon Bridge over Skagit River, 220-ft. steel span and piers. About $23,000. New bids. W. R. Arges, co. aud. Noted Apr. 13.

Wash., Tacoma—A. Nicholson, city engr., prepared plans rebuilding East 21st St. bridge. About $10,000.

Ore., Coquille—County to issue $30,000 bonds to build bridge over Coquille River.

Cal., Alderpoint—A. Logan, co. surv., preparing plans steel highway bridge over Eel River. About $60,000. Address Co. Clk., Eureka.

BIDS DESIRED

R. I., Providence—Until June 6 by State Bd. Pub. Wks., building Wickford, Hamilton Mill, Hamilton Canal, New Shoreham and Elmwood Ave. bridges. About $175,000.

Ky., Jackson—Until June 4 by County for building steel bridge over Middle Fork Kentucky River. A. Russell, co. clk.

O., Burton—See "Streets and Roads."

O., Claridon—(East Claridon P. O.)—See "Streets and Roads."

O., Cleveland—(Official)—Until June 9 by Co. Comrs. building bridge No. 4017. E. G. Krause, clk.

Ill., Winchester—(Official)—Until May 19 by County building Mauvaisterre bridge, Rd. Dist. No. 7. B. McClure, clk.

Tex., Fort Worth—Until June 4 by W. E. Yancy, co. aud., for rebuilding 7th St. bridge. Address County Clk.

Ore., Salem—Until June 20 by County building steel bridge over Williamette River; advertised in this issue.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

Mass., Westfield—(Official)—City received low bids Loomis St. bridge from L. J. Sieling, 211 Broad St., Red Bank, N. J., $10,445. E. B. Roberts Constr. Co., 21 North St. Pittsfield, $10,-530; Woronoco Constr. Co., Gillett Blk., Westfield, $12,863.

★**N. J., Somerville**—(Official)—Somerset and Union Cos. let contract Norwood Ave. bridge to F. W. Schwiers, Jr., Co., 90 West St., New York City, $12,927; Bonnie Burns bridge to Villa Bros., Westfield, $1796.

★**Pa., New Castle**—(Official)—Co. Comrs. let contract bridges over Big Run and Coffee Run to F. S. Wilson, Kittanning, $16,000 and $2900 respectively. Noted May 10.

Pa., Phila—(Official)—W. S. Twining, dir. dept. city transit, 754 Bourse Bldg., received only bid, May 15, additional steel superstructure and appurtenant work to provide station platforms on Frankford Elevated Ry. at Huntington St. (Contract No. 520) from McClintic-Marshall Co., 1201 Morris Bldg., $59,923. Noted May 10.

★**Miss., Marietta**—See "Railways."

★**Miss., Port Gibson**—County let contract bridges to Virginia Bridge and Iron Co., Roanoke, $17,400. Noted Apr. 19.

★**Mich., Marquette**—County let contract steel bridges to Illinois Bridge Co., 53 West Jackson Blvd., Chicago, $10,000.

★**Ia., Montezuma**—County let contract 19 steel bridges and 8 culverts to Iowa Bridge Co., 712 Hubbell Bldg., Des Moines, $63,000.

★**Que., Montreal**—City let contract steel bridge to A. Pion, 1300 Papineau Ave., Montreal, $210,-000. Noted May 17.

REINFORCED CONCRETE

Proposed Work

Pa., Phila.—(Official)—Dept. City Transit, 754 Bourse Bldg., cancelled letting of contract for concrete track floors, etc., will be readvertised. Noted May 10.

N. C., Wilmington—Cape Fear Packing Co., recently organized with $200,000 capital stock, soon receives bids 4-story, 60 x 180-ft. rein.-con. factory, for meat killing and packing machinery. G. H. Smith pres.

O., Niles—City preparing plans 382-ft. bridge to connect McDonald, involving 4000-yd. concrete and 100-tons structural iron. About $150,000. H. W. Turner, city engr.

Minn., Duluth—Co. Comrs. retained Duluth Engineering Co. 613 Palladio Bldg., to make plans building Fond du Lac bridge over St. Louis River, concrete and steel. About $40,-000 to $50,000.

Minn., Warren—County receives bids in June building rein.-con. bridges. About $70,000 available. O. Lins, supt. highways.

Tex., Beaumont—Beaumont Iron Works Co., West Crockett St., plans 75 x150-ft. rein.-con. foundry. About $65,000. L. J. Black, pres.

Cal., Alturas—Nevada, California & Oregon R.R. plans rein.-con. office building and shops. About $125,000. W. T. Gould, Reno, ch. engr.

Cal., Bakersfield—J. M Jameson plans rein.-con. garage. About $50,000.

Ont., London—C. Talbot, co. engr. preparing plans for rein-con. bridges. About $50,000.

BIDS DESIRED

Mass., Lawrence—(Official)—Until June 4 by Mayor and City Council for 2 rein.-con. bridges over Merrimac River; advertised in this issue.

Pa., Middlebury—(Official)—Until June 9 by Co. Comrs. building rein.-con. bridges over Dry Run. B. J. Moyer, clk.

Pa., Sunbury—(Official)—Until June 11 by A. Raker, co. controller, for rein.-con. bridge over Little Roaring Creek, Rush Twp., Northumberland Co., and Mayberry Twp., Montour Co.

Del., Elsmere—(Official)—Until June 7 by Bd. Town Comrs. building rein.-con. box culvert over Wilmington Ave. E. R. Faust, secy.

O., Canton—(Official)—Until June 20 by W. C. Schick, clk. co. comrs., new concrete arch bridge, Bethlehem Twp. Former bids rejected. Noted May 17.

O., Columbus—Until June 21 by J. Scott, clk. co. comrs., building rein.con. bridges on Reynoldsburg and New London Pike and W. Smith Rd., Plain Twp., also repairing bridge, Hard Rd., Perry Twp.

Ia., Toledo—(Official)—Until June 7 by Co. Aud. building 14 rein.-con. culverts and 2 I-beam bridges.

Minn., Luverne—Until June 19 by Town building 16 concrete culverts and bridge. C. Hough, clk.

Minn., Montgomery—Until June 4 by A. G. Bumford, city clk., building rein.-con. arch bridge, 63-ft. span, 18-ft. roadway.

S. D., Leola—Until June 5 by C. Wittmayer, co. aud., building 6 concrete and steel bridges.

S. D., Sioux Falls—Until June 4 by E. H. Shenkle, co. aud., rein.-con. outlet spillway for D. D. No. 1 and 2.

Ark., Wynne—See "Streets and Roads."

Cal., San Diego—Until June 18 by Bd. Supervs. building 2 rein.-con. Bridges on State Highway line.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

N. Y., New York—(Official)—Park Bd., Municipal Bldg., received low bids, concrete bulkhead along waterfront of Corlears Hook Park from P. J. Duffy, St. Ann's Ave., and 132nd St., $34,-186; J. MacArthur Co., 22 Ormond Pl., Brooklyn, $34,334. Noted May 17.

★**N. J., Asbury Park**—City Comrs. let contract rein.-con. natatorium to I. R. Taylor & Co., Railroad Ave., $129,000.

★**Pa., Tonawanda**—(Official)—Co. Comrs let contract rein.-con. deck girder bridge to L. Piolett & Son, Wysox. About $10,000. Noted May 10.

★**Ga., Tennille**—(Official)—City let contract rein.-con. water tower, 100,000 gal. capacity, concrete suction basin, 100,000 gal. capacity, and sewage-disposal tank to R. T. Aderhold, College Park.

O., Marietta—City received low bids rein.-con. reservoir from Merydith Constr. Co., 215½ 4th St., $70,850; Pitt Constr. Co., Fulton Bldg., Pittsburgh, $78,000; A. F. Morelock, Columbus, $114,-000. Noted May 10.

★**O., Youngstown**—(Official)—County let contract 225-ft. rein.-con. or masonry bridge over Oak St. to N. R. Porterfield, Inc., 17 Battery Pl., New York City, $35,700. Noted May 4.

★**Wis., Milwaukee**—Holeproof Hosiery Co., 57-59 4th St., let contract rein.-con. addition to W. W. Oeslein, North Milwaukee, $200,000. Noted May 17.

★**Minn., Staples**—City let contract 200,000-gal. concrete reservoir to Circular Concrete Co., 100 Corn Exchange Bldg., Minneapolis.

★**Mo., Kansas City**—(Official)—City let contract rein.-con. girder bridge over Blue River on 50th St. to Union Bridge and Constr. Co., Sharp Bldg., $41,812.

★**Wash., Olympia**—City let contract rein.-con. bridge with 2 20-ft. spans to H. C. Malott, 6526 17th Ave., N. E., Seattle, $13,221.

★**Ore., Portland**—(Official)—Co. Comrs. let contract for 2 rein.-con. bridges Nos. 8 and 9 to Harb & Barnard, 910 Chamber of Commerce, $87,750. Noted May 4.

★**Cal., Visalia**—(Official)—County let contract building 9 concrete bridges to S. G. Smartt, Bakersfield, $23,185. Noted Apr. 19.

★**Que., St. Eugene L'Islet**—City let contract rein.-con. bridge to C. Fondreau, $77,500.

★**Sask., Saskatoon**—T. Eaton Co., Ave. D, N., let contract rein.-con. warehouse to Hazleton & Wallin, 303 Donalda Bldg., Winnipeg, $125,000.

STREETS AND ROADS
Proposed Work

Mass., Adams—Town appropriated $30,000 for relocation, concrete pavements and sidewalks on Columbia St. H. C. Neff, 1st Natl. Bank Bldg., engr.

R. I., Providence—Water Supply Bd. soon lets contract 3.4-mi. new highway in town of Foster, involving 20,000 yd. earth and 1600 yd. rock work.

N. J., Trenton—City soon receives bids paving 3709 sq.yd. sheet asphalt, 5-in. concrete base. About $15,000. A. Swan, city engr.

Va., Norfolk—City plans election to vote on $15,000 bonds to pave and install sewers in various streets. W. H. Taylor, Jr., city engr.

Va., Richmond—See "Water-Works."

W. Va., Hamlin—County lets contract in June building 82-mi. permanent road, 14- or 16-ft. wide. A. F. Black, clk. Noted May 17.

W. Va., Point Pleasant—County voted $150,000 bonds to pave roads in Lewis Dist., asphaltum, brick, concrete, macadam, stone block or other material.

N. C., Jacksonville—County voted $40,000 bonds to build links of Kinston-to-Swansboro Highway Swansboro and White Oak Twps.

N. C., Lillington—County voted $15,000 bonds to build roads, Lillington Twp.

N. C., Morganton—Co. Comrs. plan to issue $105,000 bonds to build roads. J. R. Howard, clk.

N. C., Rutherfordton—County election June 12 to vote on $20,000 and $15,000 bonds to build roads in Colfax and High Shoals Twps. J. D. Hull, clk. of bd.

Fla., Lakeland—City plans to issue $80,000 bonds to improve streets. J. F. Cox, mayor.

Fla., Perry—City voted $45,000 bonds to pave streets.

Ala., Montgomery—(Official)—County rejected bids for 10,000 cu.yd. gravel at intersection of Long and Orion and Dubin Rd., 10,000 cu.yd. near Olustee Creek. T. H. Edwards, co. engr. Noted May 10.

Ala., Selma—(Official)—City rejected bids paving streets. About $75,000. New bids. W. O. Crisman, city engr. Noted May 10.

Miss., Biloxi—County plans to build 2-mi. road from corporation limits of Biloxi to Porter Ave. Address County Clk., Gulfport.

Miss., Hattiesburg—Bd. Supervs. plan to build 46-mi. road. About $81,694.

La., Colfax—Bd. Supervs. Rd. Dist. No. 3 sold $150,000 bonds to build portion Jefferson Highway. W. A. Brownlee, pres.

La., Slidell—Town plans election to vote on $100,000 bonds to pave streets and install waterworks and drainage system.

Tenn., Knoxville—City Comrs. authorized $800,000 bond issue to improve streets. J. B. McCalla, city engr.

Ky., Morganfield—City prepared plans paving, sidewalks and gutters on Spaulding St. N. O. Orcutt, city engr.

Ky., Shelbyville—City rejected bids paving streets, brick. New bids, concrete, wood block and brick.

O., Cambridge—County soon lets contract building 2-mi. tar macadam road and 3.5-mi. grading and culverts in Valley Twp. About $40,000. Noted Apr. 26.

O., Cincinnati—City plans to pave and improve portions Seegar, Haven, Dryden, Scitio and Corbin Sts. F. Krug, city engr.

O., Cleveland—City plans to repave portion St. Clair Ave. R. Hoffman, city engr.

O., Cleveland—City plans to repave and improve portions West 25th and Chester Sts. R. Hoffman, city engr.

O., Columbus Grove—Town to sell $31,000 bonds to improve Main and High Sts.

O., Findlay—County to sell $81,150 bonds June 16 to improve roads.

O., Mt. Gilead—(Official)—County sold $107,515 bonds to improve Mt. Gilead-Iberia and Penlan Rds. C. O. Higgins, co. aud. Noted May 10.

Ind., Plymouth—County plans to spend $125,000 to improve roads. A. W. Thomson, co. surv.

Mich., St. Johns—County plans to build 6-mi. road in Essex Twp. E. G. Hulse, co. engr.

Ill., Forest Lake—City plans to improve Western Ave., Green Bay and Sherman Rd. J. Anderson, Jr., city engr.

Ill., Springfield—City soon lets contract paving 101,000 sq.yd. Wade D. Seeley, city engr.

Wis., Baraboo—Town plans to build 2½-mi. concrete road from high bridge to Devils Lake. About $40,000.

Wis., Chippewa—Co. Comrs. plans 28½-mi. highway from Cadott to Cornell and Holcomb; 15½-mi. from city limits to connect with road to Colfax. W. N. Herbert, co. aud.

Neb., Superior—City soon lets contract paving 23 blocks, involving 27,678 sq.yd. asphaltic concrete and 18,941 lin.ft. curb and gutter. Noted Apr. 26.

S. D., Chamberlain—County plans to build 100-mi. road. E. Hinegar, clk.

Mo., Kansas City—City soon lets contract paving portions Paseo St. and Meyer Blvd. C. Hill, city engr.

Mo., Nevada—County election June 4 to vote on $30,000 bonds to build roads in Center Twp.

Ark., Newport—County plans to build gravel road from Newport to Grubbs, 15-ft. roadway, concrete curbing, Rd. Improv. Dist. No. 1. R. B. Hooker, interested.

Ark., Waldron—Co. Comrs. authorized $100,000 bond issue to improve roads in Dist. No. 1.

Tex., Claude—County plans to grade roads. E. C. Clayton, clk.

Tex., Crosbyton—County issued $60,000 bonds to build roads in Dist. No. 1.

Tex., Dallas—City soon lets contract paving Jefferson Ave. About $250,000. Moseley, city engr.

Tex., Huntsville—County voted $150,000 bonds to build roads in Huntsville, Dodge, Riverside, Phelps and Bath Dists.

Tex., Jourdantown—County voted $30,000 bonds to improve roads in Dist. No. 3.

Tex., Pittsburgh—County defeated $35,000 bonds to build roads in Precinct No. 2. J. L. Turnage, clk. Noted Apr. 26.

Tex., Sherwood—County plans to improve 60-mi. road. O. A. Carr, co. clk.

Okla., Ada—(Official)—County receiving bids about July 1, building 150-mi. hard surfaced roads. I. R. Gilmore, co. comr. Noted May 10.

Okla., Chandler—County election June 5 to vote on $25,000 bonds to build roads and bridges in Creek Twp.

Okla., Frederick—City plans to pave 6 mi. streets.

Okla., Okemah—County plans to spend $98,000 to improve roads in 4 townships. W. H. Patterson, co. engr.

N. M., Clovis—County plans to build 100-mi. road. F. A. Cook, co. engr.

Ariz., Florence—County to sell $150,000 bonds June 12 to build roads and bridges. C. H. Neimeyer, clk. W. W. Lane, co. engr. Noted May 4.

Ariz., Holbrook—County voted $160,000 bonds to build roads.

Ore., Ashland—State Highway Dept. soon lets contract paving and improving portion Siskiyou Highway. About $65,000 available.

Ore., Salem—Council plans to pave Portland Rd., et. al., 5th St., et al., Church St., et. al. and D St., et. al. asphaltic concrete. W. Skelton, city engr.

Cal., Riverside—Bd. Supervs. appropriated $70,000 toward share building state highway from Indio to Brawley.

Ont., Orangeville—County plans to spend $50,000 to build roads, crushed stone and bituminous binder.

Ont., Toronto—Works Com. plans to pave streets, asphalt and concrete. About $185,000. T. McQueen, secy.

BIDS DESIRED

N. Y., Brooklyn—Until June 7, by L. H. Pounds, boro. pres., regulating, curbing and laying sidewalks on portions Albermarle Rd., Rockaway Pkwy. and Ave. T; regulating and paving with permanent asphalt pavement on 6-in. concrete foundation, Albermarle and Beverly Rds., West 33rd and 77th Sts.; regulating and repaving with permanent Grade 1 granite pavement on 6-in. concrete foundation portion West Ave. and F St., regulating and restoring pavement of Chauncey St.

N. Y., New York—Until June 7 by C. Ward, pres. park bd., Municipal Bldg., furnishing materials and labor necessary for repaving cement walks of small parks.

N. Y., Staten Island—Until June 4 by C. D. Van Name, boro. pres., St. George, New Brighton, constructing concrete sidewalks on portions Davis and Pommer Aves.

N. J., Belvidere—Until June 19 by Bd. Freeholders paving Washington-Oxford Rd.

N. J., Camden—(Official)—Until June 11 by E. E. Stafford, chn. rd. com., resurfacing Browning Rd. from Kaighn Ave. to Collings Rd., about 2.53 mi.; advertised in this issue.

N. J., Hackensack—Until June 6 by Bd. Freeholders improving various roads in county. J. M. Harkness, clk.

N. J., New Brunswick—Until June 18 by Bd. Freeholders improving Sect. No. 2, Colonia-Avenal Rd. A. B. Fox, 137 Smith St., Perth Amboy, co. engr.

N. J., Trenton—Until June 7 by City Comn. for surfacing walks in Mahlon Stacy Park and treating roads in Cadwalader Park with asphaltic oil surface. A. Swan, Jr., city engr.

N. J., Weehawken—Until June 6, by Town Council, West New York, improving Bergenline Ave. C. Swensen, clk. Noted May 17.

Pennsylvania—(Official)—Until June 12 by State Highway Comn., Harrisburg, for rebuilding 32,923 lin.ft. vitr. block and rein.-con. pave[illegible] 16 ft. wide, Jackson and East Taylor Twps., [illegible]bria Co. F. B. Black, comr.

Del., Wilmington—(Official)—Until June [illegible] by J. Wilson, co. engr., for building hillside [illegible] pavement, concrete base, 1900 sq.yd. and co[illegible]te curb, 1400 lin.ft. on approaches of River [illegible] Bridge.

Md., Baltimore—Until June 6 by city p[illegible] portions McElderry, Madison, Jackson and St. Matthews St., Contract No. 151, involving 1[illegible]70 sq.yd. sheet asphalt, 1480 sq.yd. vitr. block and 105 sq.yd. granite block repaving; portions [illegible] ington, Sanders, Raborg and Smith Sts., Con[illegible]et No. 152, involving 9190 sq.yd sheet asphalt and 1450 sq.yd. vitr. block. R. Keith Compton, [illegible]4 East Lexington St., chn. and engr. paving [illegible]. R. M. Cooksey, city engr.

W. Va., New Cumberland—(Official)—[illegible] June 2 by County building 12-mi. concrete [illegible] brick road. C. E. Grafton, engr.

Ga., Atlanta—(Official)—Until June 16 by City paving 100,000-sq.yd. and 50,000-yd. gutter [illegible] portions Bowen St., clay bound or penetration macadam, Brady and Ashby Sts., Peachtree and Gordon Rds., Lakewood Park Driveways, concrete, vitr. brick, bituminous concrete, bituminous macadam or patented pavement such as bitosla[illegible], bitulithic, vitrolithic, etc. Address C. M. Holland, 507 Court House.

Ala., Linden—(Official)—Until June 4 by Co. Comrs. repairing 5-mi. gravel road and building 2-mi. extension to same. D. G. Wilkinson, co. engr.

Ala., Troy—Until June 12 by City paving 20,500 yd., brick. M. D. Pace, city engr. Noted Apr. 19.

Miss., De Kalb—(Official)—Until June 4 by W. Jonas, secy. rd. comn., building 10-mi. road, sand-clay surface, also 120,000 cu.yd. excavation, Dist. No. 2. Noted May 10.

Miss., Hattiesburg—(Official)—Until June 5 by J. K. Denham, co highway comr., for improving 45.8 mi. on Hattiesburg-Richton Rd., Hattiesburg-Eatonville Rd., Hattiesburg-Brooklyn Rd. and Brooklyn Bond Road. H. Gillis, chancery clk.

Miss., Meridan—Until June 5 by C. W. Schamer, chn. good rd. comn., paving 45,000 sq.yd. Causeyville Rd., 25,000 sq.yd. Poplar Springs Rd., 18,000 sq.yd. Asylum Rd. with bituminous material. J. T. Pinkerton, engr.

Miss., New Augusta—Until June 6 by C. C. Dearman, co. clk., building 114 mi. sand-clay roads. H. W. Bell, Laurel, engr. Noted May 24.

Miss., Raymond—(Official)—Until June 4 by Bd. Supervs. grading and graveling Byram and Raymons cross road, Wiggans Rd., Terry, Pine Grove and Canton extensions. W. W. Downing, clk.

Tenn., Cleveland—Until June 15 by City paving 51,000 sq.yd. asphalt, asphaltic concrete, cement concrete or other type, also grading, curbing and installing storm sewers, etc. S. D. Newton, city engr.

O., Burton—(Official)—Until June 6 by Town Trustees, improving Sect. A, Burton-Claridon Rd., grading roadway, concrete pavement building bridges and culverts, cost, $19,536; alternate bids grading roadways, bituminous macadam pavement, building bridges and culverts; cost, $18,899.

O., Cincinnati—Until June 6 by City paving, grading, curbing, building drains, inlets and installing 6-in. water mains in portions Arch St. F. Krug, city engr.

O., Claridon—(East Claridon P. O.)—(Official)—Until June 7 by Town Trustees improving Sect. B, Burton-Claridon Rd., grading roadway, concrete pavement, building bridges and culverts, cost, $26,265; alternate bids grading roadways, bituminous macadam pavement, building bridges and culverts, cost, $25,249.

O., Dayton—Until June 14 by W. H. Aszling, clk. co. comrs., paving 2-mi. Wolf Creek Pike, brick.

O., Defiance—Until June 5 by Co. Comrs. improving, grading and paving Farmer-Mark Rd., Sect. B, Improv. No. 30, Farmer Twp. cost, $43,849; 28,466 lin. Auburn-Defiance Rd., I. C. H. No. 426, Improv. No. 38, Farmer and Washington Twps., cost, $76,470. R. Daoust, clk.

O., Defiance—Until June 5 by R. Daust, clk. co. vomrs. building Independence Rd., Improv. No. 44, Harria Rd. Improv. No. 13, Farmer Twp., water-bound macadam; 3-mi. Farmer Mark Rd., Farmer Twp., cost, $44,000; Auburn-Defiance Rd. No. 39, cost, $76,000.

O., Lebanon—(Official)—Until June 6 by Bd. Comrs. grading, paving and curbing portions, 11th, 5th and Kanawha Sts., alley between 8th Ave. and C. & O. Ry., Virginia and Washington Aves., 3rd and 4th Aves., also installing sewer in portions alley between Monroe and Jackson Aves., Jefferson Ave and B. & O. R R., Sect. A Charleston and Kanawha Aves., Sect. B, Charleston to 10th Aves., Sect. C, Charleston to 10th Aves. A. B. Maupin, city engr.

O., Orrville—(Official)—Until June 27 by A. Jenny, village clk., improving portion South Main St. Former bids rejected. Noted May 17.

Indiana—By Co. Comrs. for building roads as follows: June 4: Brownstone, tarvia macadam road, Carr Twp., native gravel road, Owen Twp. A. Leudtke, aud. Rushville: Crushed

Streets and Roads (Continued)

stone roads Center and Jackson Twps., W. H. McMillin, aud. Tipton, gravel road, Cicero Twp., O. Vanness, aud. Bloomington, roads in North East, Orlean, Perry Rickland, Bloomington Twps. B. Blakely, aud. Cannelton: Macadam road, Tobin Twp. M. C. Conway, aud. Shoals: Roads in Mitcheltree and Center Twps.; completion roads Perry and Center Twps. L. D. Haga, aud. South Bend: 3 gravel roads, Penn Twp. A. Wolf, aud. June 5: Plymouth, slag and gravel roads, Walnut Twp. and Center-Walnut Twp. line. O. H. Weber, aud. Corydon: Stone road, line Spencer, Scott and Harrison Twps. S. C. Mauch, co. aud. Crawfordsville: Gravel road, Ripley Twp. W. F. Batman, M. D., aud. Covington: Stone and gravel road, Jackson Twp. H. W. Nevlin aud. June 6: Columbus, 12,950-ft. gravel road, Jackson Twp. W. H. Scott aud. June 7: Laporte, roads in Center and New Durham Twps. F. A. Hausheer, aud.

Ind., Rushville—(Official)—Until June 5 by City paving 3rd Ave., brick, wood block, concrete or asphalt, also oiling all streets in city. A. L. Stewart, engr.

Mich., Ionia—(Official)—Until June 5 by D. M. Steele, city clk, paving portion East Main St., brick.

Minn., Pine City—Until July 1 by County building highway from Rock Creek to Sturgeon Lake. About $160,000, part of cost to be borne by Federal Government.

Minn., Thief River Falls—Until June 12 by City for building cement walks. A. H. Fasel, city engr.

Neb., Fairbury—(Official)—Until June 6 by R. A. Davis, city clk., paving streets. Bonds for $50,000 voted for work. Grant & Fulton, Lincoln, engrs.

N. D., Ft. Ransom—Until June 18, paving bridge over Cheyenne River. C. E. Best, Lisbon, co. aud.

Mo., Kansas City—Until June 6 by Bd. Park Comrs. paving 137,600 yd. on various boulevards. T. C. Harrington, secy.

Ark., Wynne—(Official)—Until June 15 by Comrs. Rd. Improv. Dist. No. 1 for 18½-mi. gravel road with necessary concrete and pile bridges; advertised in this issue.

Ariz., Florence—Until June 12 by Clk. Bd. Superv. for road work. About $150,000. W. W. Lane, co. engr. Noted May 4

Washington—Until June 11 by State Highway Comn., Olympia, clearing, grading, draining 5.6 mi. Olympia Highway. J. Allen, highway comr.

Wash., Seattle—Until June 11 by Co. Comrs. for building 5-mi. brick highway between Bellevue and Houghton.

Wash., South Bend—Until June 8 by Co. Comrs. for clearing, grubbing, grading, draining and placing gravel macadam surface on portion permanent highway No. 3-B and clearing, grubbing, grading, draining 1½ mi. Willapa-Momohon Landing Rd., also ¾ mi. Menlo-South Fork Rd. C. S. B. Henry, co. engr.

Ore., Coquille—(Official)—Until June 7 by County building portion Coquille-Myrtle Point section of Coos Bay-Roseburg Highway. L. W. Oddy, clk.

California—(Official)—Until June 4 by State Highway Comn., 515 Forum Bldg., Sacramento, improving roads in counties as follows: grading 11.2 mi., Shasta Co.; paving 6.6 mi., Tulare Co.; from southern boundary to Earlimart and 5.9 mi. from Earlimart to Pixley, Los Angeles Co., 10.6 mi. from Seeley's Ranch to Action, portland cement concrete. A. B. Fletcher. highway engr.

Cal., Sacramento—(Official)—Until June 5 by Bd. Supervs., grading and paving, Highway No. 1, Marysville Rd. R. E. Callahan, clk.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★Maine—(Official)—State Highway Comn., Augusta, let contract building roads as follows: Gravel surfacing 2.67-mi. road Noblesboro Twp. to A. Williams & Co., Boston, $19,471; gravel surfacing 1.46-mi. road Edmunds Twp. to A. Williams & Co., Boston, $15,649; 1.38-mi. bituminous macadam road Oakland Twp. to Small & Ingalls, Bar Harbor, $22,083; 1.84-mi. gravel or bituminous macadam road Waterville Twp. to J. H. Kerr, Rumford, $16,783 or $29,244

Maine—(Official)—State Highway Comn., Augusta, received low bid building 1.33-mi. gravel road, Greenwood Twp., from M. Lavorgna, Canton, $13,088; 1.98-mi. bituminous macadam road, Falmouth Twp., from Forgione & Romano Co., Portland, $33,328.

★Mass., Grafton—State Highway Comn. let contract paving 10,700 ft. asphalt road to R. H. Newell, Uxbridge.

Mass., Hingham—Massachusetts Highway Comn. received low bids building bituminous road from G. E. Greenough, South Action, $38,667; R. F. Hudson, Melrose, $42,571; W. F. Loud, & Son Co., Quincy, $40,222.

★Connecticut—State Highway Comn., Hartford, let contract paving Thomaston-Hartford trunk line road, Bristol and Plainville Twps., to Connecticut & Rhode Island Co., Hall and Lewis Bldg., Meriden, about $56,500; 5400 lin.ft. Topeka pavement, Plymouth Twp. (Terryville, P. O.) to Lane Constr. Corp., 37 Colony St., Meriden. Cost about $25,660 to be borne by state, $12,000 by Bristol & Plainview Tramway Co.; $8200 by Plymouth Twp.; 9234 lin.ft. Topeka pavement, concrete base Waterbury and Naugatuck Twps., to Eastern Asphalt Paving Co., 280 B'way, New York City. About $45,000.

★Conn., Bristol—City let contract building sidewalks to D. F. Crowley, 192 Main St, $30,000.

Conn., New London—City received low bid paving 6300 sq.yd., brick, from Maher & Sprague, 185 Church St., New Haven, $27,342.

★Conn., Suffield—City let contract 1¾-mi. highway to L. C. Fay & Co., Inc., 318 Main St., Springfield, $25,000.

N. Y., Brooklyn—(Official)—L. H. Pounds, boro. pres., received low bids paving Surf and 17th Aves. from Borough Asphalt Co., 1301 Metropolitan Ave., $14,419 and $12,314 respectively. Noted May 17.

★N. Y., Niagara Falls—City let contract paving various streets and sidewalks to M. D. Cutini, 1134 Garden Ave.

★N. J., Bayonne—(Official)—Bd. Comrs. let contract improving portion Garretson and Trask Aves., 6th, 29th, 1st, 52nd, 28th, Cooper and Agnes Sts. to W. T. Crichfield, 2 Greene St., Jersey City. Noted Apr. 19.

★N. J., Bound Brook—City let contract paving 11,400-sq.yd. Main St. to S. Sampson, 902 Bond St., Elizabeth, $36,138. Noted May 17.

N. J., Newark—Bd. Pub. Wks. received low bids repaving portion Springfield Ave. from Atlas Contr. Co., Essex Bldg., $23,579, Newark Paving Co., 133 1st St., $24,076; R. Sangiovanni, 80 Hoyt St., $24,162; portion White Terrace Northern Constr. Co., Wiss Bldg., Newark, $5801; Standard Bitulithic Co., Essex Bldg., $5864. Noted May 10.

★Pa., Monessen—Monessen Park Land Co. let contract paving streets and sidewalks to Donora Constr. Co., Donora, $20,000.

★Pa., Northampton Heights—Boro. let contract paving 4th St. to R. S. Rathborne, Hunsicker Bldg., Allentown, $40,000.

★Pa., Scranton—(Official)—County let contract repairing roads to R. C. Ruthven, Carter Blk., $1 per yd. concrete base, $1.10 per yd. asphalt top. Noted May 10.

★Maryland—(Official)—State Highway Comn., 601 Garrett Bldg., Baltimore, let contract paving state-aid highway to Juniata Co., Empire Bldg., Philadelphia, $11,297.

★W. Va., Clarksburg—(Official)—County let contract 3.3 mi. Shinn Rd. and 1 mi. Mudlick Run to Atlantic Bitulithic Co., Virginia Railway & Power Bldg., Richmond; 1 mi. Fairmont & Clarksburg Pike and ⅓ mi. Clarksburg & Weston Pike to Allen & Horner, Clarksburg. Noted Apr. 19.

★W. Va., Fayetteville—County let contract building roads to Carey-Reed Co., Lexington, Ky., $160,000.

★Fla., Lakeland—(Official)—City let contract paving 12 mi. streets, asphalt, to Alabama Paving Co., American Trust Bldg., Birmingham, $176,000. Noted Apr. 26.

★Miss., Greenwood—Bd. Supervs. let contracts building roads to Kane-Kelly Constr. Co., New Orleans, $34,467, and McTighe-Hewey Co., Hazelhurst, $311,281.

★La., New Orleans—(Official)—B. Buil, state highway engr., let contract building 13.68-mi. Crowley-Jennings Rd., gravel, to Perry & Bonner, New Orleans, $51,219. Noted May 3.

★Tenn., Knoxville—City let contract resurfacing 26,900 sq.yd. Market and Walnut Sts., Commerce, Wall, Asylum and Depot Aves. to Murray Constr. Co., Holston Natl. Bank Bldg., Knoxville, $41,590. Noted Apr. 19.

★Tenn., Wartburg—Co. Comrs. let contract building roads to Carr Contr. Co., Harrison. About $200,000.

Ohio—State Highway Dept., Columbus, received low bids, May 17, for road improvements as follows: Butler Co., Sect. "A," Carthage-Hamilton Rd., bridges and culverts, grading roadway and paving with reinforced concrete, 5.97 mi., Federal Asphalt Co., Hamilton, $113,000; T. J. Connell, Cambridge City, Ind., $126,029; Sherridan & Kirk Constr. Co., Portsmouth, $155,305. Clinton Co., Sect. "B," Wilmington-Xenia Rd., new concrete bridge, Richelderfer Constr. Co., Circleville, $8823. Champaign Co., Sect. "P-2," Urbana-West Jefferson Rd., grading roadway and paving with macadam, 0.27 mi., Sheedy & Hannigan, Urbana, $3627; J. C. McCann & Son, Columbus, $3492. Clinton Co., Sect. "G," Cincinnati-Chillicothe Rd., grading roadway and paving with waterbound macadam, 0.48 mi., W. N. McKay, New Burlington, $4093. Fairfield Co., Sect. "M-2," Cincinnati-Zanesville Rd., bridges and culverts, grading roadway and paving with one of following types: T. Vogelsburg, London, bituminous (asphalt A-1C) macadam, $53,890; H. F. Hampshire, Circleville, bituminous (asphalt A-1) macadam, $52,385, waterbound macadam, $42,155; O. M. Junk, Chillicothe, bituminous (tar) macadam, $49,981, waterbound macadam, $42,158. Fayette Co., Sect. "J," Springfield-Washington Rd., culverts and grading roadway and paving with waterbound macadam, 2.97 mi., F. Walz, Columbus, $23,409. Hancock Co., Sect. "G," Lima-Sandusky Rd., new abutment and steel bridges, Brookville Bridge Co., Brookville, $5634; H. L. Vander Horst, Kalamazoo, Mich., $7350. Harrison Co., Sect. "N," Cadiz-Carrollton Rd., bridges and culverts, grading roadway and paving with waterbound macadam, 3.01 mi., Coss & Myer, Wheeling, W. Va., $37,854. Holmes Co., Sect. "C-1," Navarre-Berlin Rd., bridges and culverts, grading roadway and paving with monolithic brick on concrete base, 1.18 mi., Holmes Constr. Co., Millersburg, $26,800; Sect. "K," Millersburg-Mansfield Rd., bridges and culverts and grading roadway, 2.18 mi., J. D. Gillespie, LaRue, $14,937; R. C. Rousch, Canton, $15,488. Jackson Co., Sect. "H," Jackson-Ironton Rd., Contract No. 1, bridges and culverts, grading roadway and paving with brick on concrete foundation, 1.14 mi., McCoy & Keller, Jackson, $28,607; Contract No. 2, bridges and culverts, grading roadway and paving with brick on concrete foundation, 0.20 mi., McCoy & Keller, Jackson, $3471. Richland Co., Sect. "E," Ganges-Plymouth Rd., bridges and culverts, grading roadway and paving with bituminous macadam, 2.33 mi., Forest Constr. Co., Forest, $44,871; M. Gledhill, Galion, $44,973; Latshaw & Stinchcomb, Fostoria, $45,748. Sandusky Co., Sect. "L," Fremont-Bellevue Rd., drainage structures, grading roadway and paving with brick, 0.76 mi., C. Stutz, Bellevue, $25,578; Modern Constr. Co., Fremont, $29,616; Croghan Constr. Co., Fremont, $30,797; Sect. "R," Fremont-Bellevue Rd., drainage structures, grading roadway and paving with brick, alternative bids will also be received on constructing drainage structures, grading roadway and paving with semi-monolithic brick, 0.42 mi., Lee Bros. & Petticord, Clyde, $10,468; Sect. "Q," Sandusky-Clyde Rd., drainage structures, grading roadway and paving with brick, with mastic filler, 0.68 mi., Lee Bros. & Petticord, Clyde, $15,982; Sect. "B," Fremont-Bowling Green Rd., drainage structures, grading roadway and paving with brick, 0.72 mi., Croghan Constr. Co., Fremont, $20,437; Zeigler & Reardon, Fremont, $20,821. Vinton Co., Sect. "H," McArthur-Logan Rd., bridges and culverts, grading roadway and paving with waterbound and bituminous macadam, 2.47 mi., E. C. Radebaugh, Logan, $35,984. Warren Co., Sect. "B," Morrow-Lebanon Rd., bermes and ditches and paving with waterbound macadam, 4.47 mi., J. K. Spencer, Oregonia, $14,031. Wayne Co., Sect. "O," Wooster-Akron Rd., bridges and culverts, grading roadway and paving with monolithic brick on concrete foundation, 2.5 mi., Hart & Kemp, Elyria, $44,845. Athens Co., Sect. "H," Logan-Athens Rd., surface treating with tar, 1.90 mi., Barrett Co., Cleveland, $1470. Cuyahoga Co., Sect. "J," "G-1" and "G-2," Cleveland-Medina Rd., surface treating with cold oil; length of Sect. "J" 1.24 mi., "G-1," 4.54 mi., and "G-2," 3.97 mi.; Standard Oil Co., Cleveland, $1144; Atlantic Refining Co., Columbus, $1373. Harrison Co., Sect. "A," Dennison-Cadiz Rd., surface treating with tar, 2.74 mi., Barrett Co., Cleveland, $2699. Hocking Co., Sect. "A" and "J," Logan-Athens Rd., surface treating with tar; length of Sect. "A" 9850 ft., Sect. "J," 10,803 ft.; Barrett Co., Cleveland, $3604; Sect. "C," Logan-Chillicothe Rd., retaining wall and riprap, Shaw & Price, Logan, $1475; Petrie & Haynes, Logan, $1484; Huston & Henderson, Logan, $1494. Jackson Co., Sect. "G," I. C. H., Sect. "I," I. C. H., Sect. "F" and "J," I. C. H., in Jefferson, Milton and Lick Twps., surface treating with oil, Atlantic Refining Co., Columbus, $6237. Jefferson Co., Sect. "D" and "E," Canton-Steubenville Rd., surface treating with tar, 4.02 mi., Barrett Co., Cleveland, $3603. Lorain Co., Sect. "E" and "A," Huntington and Wellington Twps., surface treating with bituminous material, Atlantic Refining Co., Columbus, $3813. Lucas Co., Sect. "A," Toledo-Detroit Rd., patching and surface treating, 2.2 mi., Barrett Co., Cleveland, $1865; Sect. "G," Toledo-Wauseon Rd., patching and surface treating, 4.7 mi., $3683; Sect. "E," "F," "G," "H," "I" and "J," Toledo-Angola Rd., patching and surface treating, 15 mi., $13,930; Sect. "F," Toledo-Napoleon Rd., applying surface treatment, 2 mi., $950; Sect. "A," Jerusalem Rd., patching, surface treating and building new top course over small portion, 5 mi., $7092. Medina Co., Sect. "B," "C" and "H," Cleveland-Wooster Rd., surface treating with bituminous material, 2.02 mi., Atlantic Refining Co., Columbus, $1359; S. H. Roher, Seville, $1363. Ottawa Co., Sect. "E," Fremont-Port Clinton Rd., grading shoulders and paving with bituminous macadam, 2.4 mi., Pearson & Welsch, Fremont, $16,249; Gray Bros., Bowling Green, $17,013; Sect. "D," Oak Harbor-Genoa Rd., surface treating with tar, 3.56 mi., Muldoon & Bergman, Genoa, $2194; Barrett Co., Cleveland, $2195. Perry Co., Sect. "K," I. C. H. No. 356, and Sect. "A," I. C. H. No. 354, Reading, Hopewell and Pike Twps., surface treating with tar, length of Sect. "K" 6763 ft., Sect. "A," 5973 ft., Barrett Co., Cleveland, $2571. Seneca Co., Sect. "E," I. C. H. No. 199, and Sect. "O," I. C. H. No. 271, surface treating with cold oil, length of Sect. "E" 8400 ft., Sect. "O," 8366 ft., I. C. H. No. 272, Sect. "G," I. C. H. No. 22, Sect. Atlantic Refining Co., Columbus, $1333; H. W. Curry Co., Eaton, $1341; Sect. "J," I. C. H. No. 449, Sect. "H," I. C. H. No. 267, Sect. "D,"

Streets and Roads (Continued)

"F," I. C. H. No. 22, and Sect. "N," I. C. H. No. 22, surface treating with oil, length of Sect. "J" 5260 ft., Sect. "H," 16,835 ft., Sect. "D," 1 mi., Sect. "G," 8900 ft., Sect. "F," 6615 ft., Sect. "N," 1336 ft., Barrett Co., Cleveland, $6984. Union Co., Sect. "A," Richwood-Larue Rd., widening present paving with waterbound macadam and resurfacing old and new paving with bituminous macadam, alternative bids were also received, 2.18 mi., S. Gaughman, Marysville, $16,126, alternative bid, $16,127; L. L. Aller, Larue, $16,966, alternative bid, $16,966; Glendell & Huston, Richwood, $17,103, alternative bid, $17,103 Van Wert Co., Sect. "C" and "D," Van Wert-Rockford Rd., surface treating with tar, 3.01 mi., Putman & Shindledecker, Van Wert, $3463.

★**O., Blanchester**—Village let contract improving roads, macadam, to W. N. McCay.

★**O., Bremen**—City let contract paving and grading Walnut St. and Purvis Ave. to Coshocton Constr. Co., Coshocton, $21,000.

★**O., Canton**—County let contract paving various streets to C. L. Stoner, Massillon; H. Corl, 809 7th St., Highway Constr. Co., Elyria.

★**O., Cincinnati**—Co. Comrs. let contract repairing Harrison and New Haven Pike, and Hamilton and Cleveland Pike to Nugent & Hines, Cleves, $15,126 and $6461 respectively; building retaining walls on Wesselmann Rd. to M. Hanlon, Cleves, $8846.

★**O., Jefferson**—County let contract paving and curbing Forest and Cherry Valley Rd. to T. B. Fitzgerald, Ashtabula, $63,000.

★**O., Toledo**—County let contract paving 15 mi. waterbound and concrete macadam roads to Doan & Langerderfer, 12 Spitzer Bldg., $331,000; P. Garrigan & Son, 434 Valentine Bldg., $15,989; M. P. Hannin, 431 Valentine Bldg., $44,336.

★**Ind., Rushville**—Co. Comrs. let contract to G. T. Miller, Lebanon, for concrete roads, Ripley and Walker Twps., $50,710; O. W. Righter Rd., $51,-685.

★**Ind., Wabash**—County let contract building roads to Kilty, Heck & Kilty, North Manchester, $9323, and J. C. O'Connor & Son, Ft. Wayne, $4185.

★**Mich., Petoskey**—(Official)—City plans to build concrete road by day labor. R. D. Tripp, city engr.

★**Illinois**—(Official)—State Highway Comn., Springfield, let contract building roads in counties as follows: earth roads Sects. F and G, Montgomery Co. to J. D. Vogt, Reeb Station, Belleville, $6400 and $11,988 respectively; concrete road, Sect. C, Rock Island Co., S. D. Hicks Constr. Co., Moline, $9276; brick road, Sect. E, Stephenson Co., G. Graham Co., Freeport, $18,147; brick road, Sect. G, Tazewell Co., to D. A. Meyers, 209 West Armstrong St., Peoria, $6937. Noted May 10.

★**Ill., Jacksonville**—Bd. Local Improv. let contract paving West State St. to Standard Paving Co., 29 South La Salle St., Chicago, $50,000; North Sandy, West Ct. and Northwester St. to J. A. Bretz, 3rd and Carpenter Sts., Springfield, $8598.

★**Ill., Witte**—City let contract paving streets to Strubel & Nickalton, $18,000.

★**Wis., Bayfield**—City let contract paving 7 blocks, vitr. brick, to Sweeney Bros., Reedsburg, $1.85 per sq ft.

★**Wis., Madison**—Bd. Pub. Wks. let contract paving streets, concrete and sheet asphalt, to John Constr. Co., J. F. Icke and J. R. Allmone, $450,-000. Noted May 4.

★**Ia., Clarinda**—(Official)—City let contract paving streets to J. S. McLaughlin & Sons, Red Oak, $80,000.

Minn., St. Cloud—(Official)—City received low bids paving 13,000 sq.yd. bitulithic from C. T. Welch Co., Minneapolis, $2.04 per sq.yd.; 11,000 sq.yd. from General Contr. Co., 1254 Plym Bldg., Minneapolis, $2.22 per sq.yd.

★**Neb., Omaha**—City let contract paving portion Bancroft Blvd. to H. Murphy Contr. Co., $2.60 sq.yd.

★**Mont., Roundup**—City let contract paving business dist. to Warren Constr. Co., Journal Bldg., Portland, $73,330. Noted Apr. 19.

★**Ark., Eureka**—(Official)—County let contract road between Eureka Springs and Benton County line to Inland Constr. Co., Oklahoma.

★**Washington**—State Highway Comn., Olympia, let contract improving 4-mi. Pacific Highway to Barbo Bros., Bellingham, $18,150; portion National Park Highway to G. A. Banderett, Bryn Mawr, $25,023.

Wash., Seattle—Bd. Pub. Wks. received low bids paving Rainer Ave. from Sparger Concrete Co., Coleman Bldg., $44,102; Ferguson Constr. Co., White Bldg., $46,098; Occidental Ave., McGuire Bros., $73,315, Seattle Paving Co., Seattle, $74,627, Piorito Bros., $77,405.

★**Wash., Wenatchee**—County let contract building concrete road to C. M. Payne, East 714 Mission Ave., Spokane, $19,631. Noted Apr. 19.

★**Ore., Portland**—City let contract paving portion Powell St. to Warren Constr. Co., Journal Bldg., $26,352.

California—State Highway Comn., Sacramento, received low bids building 3.46 mi. concrete highway in Solano Co. from Harlan & Harlan, Williams, $26,977; 3.2 mi. between Sante Rita and Dublin, Alameda Co., from Borland & Ayer, Oakland, $29,306.

California—State Highway Comn., Sacramento, received low bids building 2.9-mi. grading on state highway between Las Cruces and Gaviota Pass, Santa Barbara Co., from I. Hodson, San Luis Obispo, $59,950; R. Sherer, P. E. Bldg., Los Angeles, $61,551; Sandercock Transfer Co., San Luis Obispo, $63,065.

★**Que., St. Augustin**—Council let contract building roads to Lagamere, Honde & Cie, Grandmere, $14,000.

★**Man., Wallace**—City let contract grading 18½ mi. road to A. R. Boivin, 167 Notre Dame E, Winnipeg, $19,500.

RAILWAYS—STEAM AND ELECTRIC

Proposed Work

Pennsylvania—Hershey Transit Co. completing surveys for extension from Hershey to Manheim. J. B. Leithiser, Hershey, genl. mgr.

Alabama—Receivers of Gulf, Florida & Alabama Ry. asked W. B. Sheppard, judge, for authority to borrow $500,000 on receivers' certificates for extending and improving main line, constructing sidings and spur tracks to industrial plant, purchase of necessary rolling stock and other improvements. J. P. Lynahan, Pensacola, Fla., supt.

Michigan—M. Polasky, Alma, is reported interested in electric railway to be built from Lansing to Mount Pleasant, via Alma.

Illinois—Illinois Terminal R.R having surveys made for line from Edwardsville to O'Fallon, which will eventually be extended to East Caron-delet. Estimated cost of entire line, $3,000,000. H. H. Rodgers, Alton, engr. M. W.

Illinois—Chicago, Fox Lake & Northern Electric Ry. will soon begin construction on line from Evanston to Palatine, via Niles Center, Park Ridge, Mt. Prospect and Arlington Heights. Company will take over Palatine, Lake Zurich & Wauconda R.R., operating steam line from Palatine to Wauconda; from Wauconda new line will be built to extend north to Volo (Round Lake P. O.), Fox Lake, Lake Geneva, Wis., and Antioch, then west and north to Elkhorn and Jefferson, Wis. L. K. Sherman, 6418 South Sangamon St., Chicago, ch. engr.

Illinois—Chicago, Springfield & Cairo Ry. made application to State Pub. Utilities Comn. for certificate of convenience and necessity to build railway south from Springfield to Cairo, via Pawnee, Harvel, Greenville, Hillsboro, Carlyle, Nashville, Pinckneyville, Murphysboro and Jonesboro. J. B. Campbell, pres. A. E. Taylor, secy.

Wisconsin—Milwaukee Connecting Ry, subsidiary of Chicago & Northwestern Ry., completed preliminary plans for connecting link between Madison and Sparta lines, east of West Allis, 8 mi. About $1,200,000. W. H. Finley, Jackson Blvd. and Franklin St., Chicago, ch. engr.

Iowa—Ft. Dodge, Des Moines & Southern R.R. plans to spend $250,000 for extensions and improvements. C. H Crooks, Boone, genl. mgr.

Nebraska—Union Pacific R.R. will extend Platte Valley line, running from North Platte to Gering, to point 30 mi. beyond western terminus, through the Goshen Hole country in eastern Wyoming. R. L. Huntley, 15th and Dodge Sts., Omaha, ch. engr.

Missouri—Atchison, Topeka & Santa Fe Ry. plans line from Mexico, Mo., to St. Louis, and from Mexico to Corrollton. Work will be started as soon as right-of-way has been secured. R. A. Rutledge, Topeka, Kan., ch. engr. Eastern Lines.

Arizona—W. A Clark, Miner Bldg., Butte, Mont., is reported interested in railway to be built from Swansea, via Kingman, to St. Thomas, Nev., on San Pedro, Los Angeles & Salt Lake R R.

Arizona—Prescott & Phœnix Short Line R.R. having final surveys made for 70-mi. standard gage railroad from Turkey to Glendale. R. E. Sloane, 406 Fleming Bldg., Phœnix, secy. and treas.

Mexico—See "Miscellaneous."

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Mississippi**—Illinois Central R.R. let contract grading about 23 mi. second track at 2 points on Yazoo & Mississippi Valley R.R., from Marietta to Prichard, about 12 mi., and from Gwin (Tchula P. O.), to Cruger, about 11 mi., also bridges, to Philbrick & Baxter, Jackson. Estimate, $500,000.

★**Tennessee**—Southern Ry. let contract double tracking line from Helenwood to Robbins, 6.4 mi., to Sheehan Constr. Corp., Roanoke, Va.

★**Washington**—Methow Valley & Eastern Ry. let contract 45-mi. railway from Pateros to Winthrop to Erickson Bros., Krupp.

EXCAVATION AND DREDGING

Proposed Work

Ga., Homer—Drainage—Comrs. Grove River D. D. No. 2, Banks Co., will issue $28,000 bonds to improve Grove River and other tributaries in district. J. W. S. Lord, chn.

La., Slidell — Drainage — See "Streets and Roads."

Ky., Paducah—Canal—J. M. Lang, co. judge, completed plans Mayfield Creek Drainage Canal from Grahamville, McCracken Co., across McCracken, Graves, Ballard and Carlisle Cos., emptying into Mississippi River, about 40 mi.; 67 ft. wide and 15 ft. deep. About $300,000. McCracken Drainage Comn. in charge of construction. H. Beyer, pres.

Ia., Jefferson—(Official)—Drainage—Bd. Supervs. rejected bids Joint Drain No. 110 in Greene Co. and No. 221 in Webster Co. B. S. McCully, Jeffersin, co. aud. Noted May 17.

Ia., Westfield—Drainage—Westfield D. D. plans open ditch work About $20,000. C. Moriarty, 600 United Bank Bldg., Sioux City, engr.

Minn., Ada—(Official)—Ditches—County sold $235,000 bonds for Judicial Ditches Nos. 53 and 54. D. E. Fulton, co. aud. Noted May 10.

Minn., Redwood Falls—Ditch—Co. Comrs. plan Ditch No 38. L. P. Larson, co. aud.

Kan., Quenemo—Drainage—E. B. Murray, engr., 920 Walnut St., Kansas City, Mo., completed surveys Marais des Cynes River drainage project in Franklin and Osage Cos., including 2-mi. ditch for Quenemo D. D. Cost between $100,000 and $125,-000.

Colo., Ordway—Drainage—Natl. Sugar Co. preparing plans drainage system for extensive land holdings in county.

N. M., Las Vegas—Drainage—V. K. Jones, city engr., preparing plans drainage district. About $15,160.

Ore., Portland—Drainage—Peninsula D. D. organized to drain Oregon and Columbia Slough Dists., about 951 acres. C. C. Colt, 627 Knot St., interested.

Cal., Los Angeles—Irrigation—State Water Comn., Call Bldg., San Francisco, granted permission to Sespe Light & Power Co., Los Angeles, to divert 88 second-feet of water from Sespe River for hydro-electric power plant. Plans include loose-rock and concrete dam and 9-mi. main canal and flume generating 5000 hp. About $2,000,000.

Cal., Oroville—Irrigation—F. F. Ford, A. L. Andrews, N. B. Crane and associates plan to engage engineer to investigate feasibility of irrigation district in Butte Co. to irrigate 30,000 acres of land. Water will be obtained from Middle Fork of Feather River, or system of Feather River Land and Irrigation Co. will be taken over and extended.

Cal., Susanville—Irrigation—State Water Comn., Sacramento, received application from Horne Development Co., Auburn, for permission to divert 20 sec.-ft. of water from streams in Lassen Co. for irrigation. Plans include 2 earth storage dams. About $71,000.

Cal., Susanville—Irrigation—Baxter Creek Irrigation Dist. voted $310,000 bonds to construct irrigation system.

BIDS DESIRED

N. Y., Albany—(Official)—Canals—Until June 26 by W. W. Wotherspoon, state supt. pub. wks., Capitol, improving New York State canals, Contract No. 146, Erie Canal, Sect. 4, constructing movable dam to replace existing Dam No. 14, Herkimer; advertised in this issue.

Miss., De Kalb—See "Streets and Roads."

Miss., Greenville—(Official)—Drainage—Until June 11 by O. C. Kulicka, secy. co. bd. drainage comrs., clearing natural channels in Black Bayou and Granicus Bayou, about 6-mi. Noted May 17.

La., Opelousas—Drainage—Until June 18 by C. F. Boagni, pres., Bayou Mallet and Plaquemine D. D. for excavating 42.2-mi. ditch, bottom ranging 6- to 28-ft. containing about 518,000 cu.yd. dirt; completing system of ditch designed to provide gravity drainage for above district.

Ia., Algona—(Official)—Drainage—Until June 15 by W. Wendt, drainage clk. for D. D. No. 133; Kossuth Co. D. D. No. 150; Winebago-Kossuth Joint D. D. Nos. 68-136; Emmet-Kossuth Joint D. D. No. 5; Humbolt-Kossuth Sub 2 of Joint No. 2.

Ia., Charles City—(Official)—Ditch—Until June 8 by C. R. Jones, co. aud., laying, filling, and construction of headwalls and intakes for Drain No. 3, Sect. 1; former bids rejected.

Ia., Mason City—Drainage—Until June 5 by G. E. Frost, co. aud., for drainage work, Dist. No. 44, 44,550 ft. 6- to 28-in. tile; Dist. No. 52, 9355 ft. 6- to 15-in. tile; Dist. No. 54, 18,810 ft. 6- to 16-in. tile; Dist. No. 49, 26,350 ft. 7- to 28-in. tile; Dist. No. 41, 29,500 ft. 6- to 18-in. tile; also repair for Dist. No. 2, 3350 ft. 8- to 10-in. tile.

Minn., Ada—Ditch—Until June 5 by D. E. Fulton, co. aud., for Ditch No. 42, requiring 94,353 cu.yd. excavation.

Minn., Chaska—(Official)—Ditch—Until June 22 by J. B. Connolly, co. aud., dredging Ditch No. 6, about $12,922, fencing $1151. Noted May 3.

Minn., Crookston—Ditch Work—Until June 12 by H. J. Welte, co. aud., repairing County Ditches Nos. 51, 20 and 53, each requiring about 3000 cu.yd. excavation.

S. D., Sioux Falls—Spillway—See "Reinforced Concrete."

Mo., Bloomfield—Ditch—Until June 6 by A. C. Spiker, civil engr. of D. D. No. 30, for constructing ditch and clearing right-of-way.

Excavation and Dredging (Continued)

Me., **Bloomfield**—Ditch—Until June 13 by J. E. Dunn, civil engr. of D. D. No. 31, for constructing ditch and clearing right-of-way.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★Ia., **Charles City**—(Official)—Ditch—County let contract Drain No. 3, Sect. 1, to C. L. Hanson, $14,000, open ditch work; Cement Products Co., Spencer, $49,000, furnishing tile. Noted May 17.

Minn., Duluth—Ditch—County received only bid for Ditch No. 8 from Constr. Co., 304 Alworth Bldg.; furnishing culverts from Minneapolis Steel and Machinery Co., 29th and Minnehaha Sts., Minneapolis. Noted May 3.

★**Neb., Schuyler**—(Official)—Drainage—County let contract drainage ditch to Elkhorn Constr. Co., Fremont, 12½c. per cu.yd. Noted May 10.

★**Mo., Charleston**—Drainage—County let contract open work in Big Lake D. D., requiring 1,050,000 cu.yd. excavation, to Sternberg Bros., Natl. Bank of Commerce Bldg., St. Louis.

★**Mo., St. Charles**—Ditch—County let contract clearing right-of-way, excavating ditch, etc., to Wilmes & Foundley, St. Charles.

INDUSTRIAL WORKS

Proposed Work

Mass., Boston—General Electric Co., 84 State St., having plans prepared by A. J. H. & W. C. Ely, archt., Essex Bldg., Newark, N. J., for 3-story, 80x340-ft. factory, Porter St.

Mass., Boston—L. Shapiro, 27 School St., having plans prepared by J. E. McLaughlin, archt., 18 Tremont St., for 1-story garage, to be leased to U. S. Government. About $50,000.

Mass., Cambridge—Fleischmann Co., 701 Washington St., New York City, having plans prepared by C. A. Jackson, archt., c/o owner, for 3-story, brick and steel plant, Inmann St.

Mass., Newford—Butler Mill Corp., Ruth Ave., plans 1-story, 140 x 650-ft. addition to be used as weave shed. About $136,000.

Mass., Watertown—Hood Rubber Co. soon receives bids 5-story, brick and concrete plant. About $300,000. W. J. Bitterlich, archt.

Mass., Worcester—Morgan Spring Co., West Boylston, plans 4-story, 66 x 201-ft., brick and rein.-con. japanning department.

N. Y., Albany—Albany & Southern R.R. having plans prepared by J. G. White Engr. Corp., 43 Exchange Pl., New York City, for hydro-electric plant in Catskill Mountains. About $3,000,000. J. E. Hewes, genl. mgr.

N. Y., Buffalo—Donner-Union Coke Corp., recently incorporated, plans byproduct coke oven on 50-acre site adjoining plant of Donner Steel Co., Inc., Abbot Rd. About $3,000,000. R. N. Donner, F. B. Baird, H. Yates and F. C. Slee, dirs.

N. Y., Victory Mills—Saratoga Victory Mfg Co. having plans prepared by W. Higginson, archt., 13 Park Row, New York City, 4-story, 150x280-ft. factory.

N. J., Clifton—American Forging Co., recently incorporated with $100,000 capital stock, purchased site on Erie R.R., and plans plant. J. H. Waters, pres., J. Travers, secy.

Pa., Phila.—American Insulation Co., 67 North 2nd St., soon lets contract 2-story, 83x130-ft. brick, stone and concrete factory, Stokley and Roberts Sts. Peuckert & Wunder, archts., 310 Chestnut St.

Pa., Phila.—Berko Bros., Randolph and Wood Sts., plan 2-story, 140 x 200-ft. factory at York and Erie Sts.

Pa., Phila.—Edgewater Finishing Co., Frankford and Nicetown Sts., plans 4-story, 102 x 157-ft. factory at 4080 Frankford Ave.

Pa., Phila.—India Refining Co., Swanson and McKean Sts., plans rebuilding factory, 3-story. About $100,000. W. D Furber, archt. and engr., 420 Walnut St., soon receives bids. Noted May 3.

Pa., Phila.—Very Best Garage Co. soon lets contract 4-story, 77 x 115-ft. brick and rein.-con. garage, 7th and Spring Garden Sts. F. V. Greenstien, archt.

Pa., Pittsburgh—J. L. Stewart plans 9-story rein.-con. warehouse at 123-25 Penn Ave. About $115,000.

N. C., Wilmington—See "Reinforced Concrete."

Miss., Canton—Stillwater-Crosby Lumber Co., increased its capital stock from $200,000 to $350,000, and will extend plant.

O., Cincinnati—Citizens Motor Car Co., 7th and Main Sts., purchased site in Dayton Dist. and plans 2-story, 71 x 166-ft. garage and shop.

O., Cincinnati—Davenport Paper Box Co., 239-241 Main St., had plans prepared by G. W. Drach, archt., Union Trust Bldg., 4-story, 100x156-ft. factory, Pearl and Pike Sts. About $100,000. F. Davenport, pres.

O., Cincinnati—H. H. Meyer Packing Co., Central Ave. and Lynn St., had plans prepared by M. Fisher, archt., 2156 Central Ave., remodeling 3-story packing plant.

O., Cincinnati—Sheriff Preserve Co., 123 East Pearl St., purchased site at 8th and McLean Sts. and plans 5-story cold-storage plant.

O., Cincinnati—G. H. Strietmann, 225 W. 12th St., plans 2-story, 50x150-ft. garage and warehouse. Stegner & Hughes, archts., Commercial Tribune Bldg., soon receives bids. Noted Apr. 5.

O., Cleveland—Columbia Axle Co., 826 East 72nd St., having plans prepared by W. S. Ferguson Co., archt., 1900 Euclid Ave., for 1- and 2-story, 300 x 500-ft. factory. About $250,000. W. R. Hopkins, pres.

O., Cleveaind—Grant Motor Car Co., Coit Rd., plans factory and boiler house at Coit Rd. and Kirby Ave. About $600,000. W. S. Ferguson Co., archts. and engrs., 1900 Euclid Bldg., soon receives bids.

O., Cleveland—Otis Elevator Co., 528 Leader-News Bldg., plans 2-story, 60 x 100-ft. building, 1375 East 6th St. About $70,000.

O., Cleveland—K. V. Painter plans garage and factory, 1975 East 66th St. About $80,000.

O., Cleveland—Supreme Motors Corp. purchased site, Bliss Rd. and St. Clair St., and plans factory to manufacture automobiles and aëroplanes. About $50,000. C. F. Jamison, pres.

Ind., Gary—Cudahy Chemical Co. plans additions. About $500,000.

Mich., Detroit—Briggs Mfg. Co., Leuschner Ave., and G. T. R. R., increased its capital stock from $50,000 to $750,000, and will enlarge plant.

Ill., Chicago—Central Mfg. Co., 1st Natl. Bank Bldg., plans power station, 2015 West 39th St. About $250,000. S. Scott Joy, archt.

Ill., Chicago—B. Heller & Co., 3925 Calumet Ave., plans 3-story factory, Prairie Ave., near 38th St. About $60,000. J. C. Llewellyn, 38 South Dearborn St., archt.

Ill., Chicago—Peacock Estate, c/o E. N. Brydges, archt., 64 E Van Buren St., soon receives bids 3-story, 100x110-ft. factory, Stewart Ave., between 35th and 36th Sts.

Ill., Chicago—Turner Mfg. Co., 1444 South Sangamon St., plans 3-story manufacturing plant, Ogden Ave. and 42nd St. A. S. Alschuler, archt., 28 E Jackson Blvd., soon receives bids.

Ill., Chicago—United States Can Co., 2510 Highland Ave., Norwood, having plans prepared by S. N. Crowen, archt., 30 North La Salle St., for 1st unit of its plant, 1-story. About $300,000.

Ill., Decatur—Comet Automobile Co., Orlando Bldg., had plans prepared for 2-story, 50x80-ft. assembling plant. About $135,000. G. W. Jagers, pres. and genl. mgr.

Ill., East St. Louis—Golden Grain Milling Co., 17th St. and Brady Ave., soon receives bids milling plant. About $250,000. E. L. Solfisburg, treas. and genl. mgr.

Ill., Rockford—Keig & Stevens had plans prepared by C. D. Dooley Co., archts., and P. H. Anthony, assoc., archt., 1109 Waldheim Bldg., Kansas City, Mo., for 2-story bakery. About $50,000.

Wis., Clintonville—Wisconsin Duplex Auto Co., recently incorporated with $500,000 capital stock, plans plant to manufacture 1-ton trucks. B. A. Mosling, genl. mgr.

Wis., Milwaukee—Valley Steel Co., recently organized by Milwaukee capitalists affiliated with financial interests in the East, plans steel mill here. About $1,000,000.

Wis., Racine—Belle City Mfg. Co. had plans prepared for 4-story, 80 x 200-ft. addition to warehouse.

Minn., Duluth—Robert Barnes Steamship Co. plans plant. About $100,000. A. McDougall, Jr., and A. Barnes, interested.

Minn., Minneapolis—United Chemical Industry Co., 636 McKnight Bldg., preparing plans factory. About $50,000. O. L. Bird, secy.

Mo., Joplin—City will hold election June 12 to vote on $225,000 bonds to build light plant. H. Phillips, city clk.

Tex., Beaumont—See "Reinforced Concrete."

Tex., Ft. Worth—Riverside Cotton Oil Co. increased its capital stock from $75,000 to $250,000, and will enlarge its power plant.

Tex., Houston—Texas Chemical Co., incorporated with $100,000 capital stock, plans fertilizer manufacturing plant. F. H. Ward and E. W. Townes, Houston, incorporators.

Wash., Seattle—Metropolitan Bldg. Co., Henry Bldg., retained Howells & Stokes, Henry Bldg., to prepare plans 4- or 7-story garage and machine shop, University Tract, 5th Ave. to serve tenants of White, Henry and Stuart Bldg. About $150,000.

Cal., Alturas—See "Reinforced Concrete."

Cal., Bakersfield—See "Reinforced Concrete."

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Mass., Boston**—Armour Co., Union Stock Yards, Chicago, let contract brick, steel and rein.-con. factory, 105-09 Berkeley St., Boston, to R. C. Clark, 7216 Harvard Ave., Chicago. About $175,000.

★**Mass., Springfield**—Harley Co., Page Blvd., let contract forge shop to E. F. Carlson Co., 310 Main St. About $100,000.

★**Conn., Waterbury**—American Brass Co. let contract factory to Chatfield & Chatfield, 94 Benedict St., $100,000.

★**N. Y., New York**—Stern & Salisberg, 416 W. 45th St., let contract candy factory to Reid Palmer Constr. Co., 30 E. 42nd St., $75,000.

★**Pa., Phila.**—Field & Co., 721 Arch St., let contract warehouse, office and garage on 16th St. to W. S. Slifer. About $90,000.

★**Pa., Phila.**—Pennsylvania Sugar Co., Broad and Chestnut Sts., let contract refinery, warehouse, wharf and power plant to O'Meara Contr. Co., 253 Quince St., $200,000.

★**Pa., Phila.**—Phila. Drying Machine Co., 6721 Germantown Ave., let contract factory to Driscoll Co., Stock Exchange Bldg., $65,000.

★**Pa., Phila.**—Phila. Paper Mfg. Co., Nixon Sts., let contract addition, Nixon and Fountain Sts., to Barclay, White & Co., 1713 Sansome St. About $75,000.

★**O., Cleveland**—Cleveland Welding & Mfg. Co., 2129 East 117th St., let contract factory to Hunkin, Conkey Co., Cuyahoga Bldg., $60,000.

★**O., Cleveland**—Peters Machine & Mfg. Co., 7320 Madison Ave., let contract addition to Chrisford Constr. Co., 1452 Highland Ave. About $60,000.

★**O., Cleveland**—Winton Gas Engine Co., 2116 W. 106th St., let contract factory to Austin Co., 14230 Euclid Ave., $50,000. Noted May 10.

★**O., Cleveland**—Wolf Envelope Co., 1270 Ontario St., let contract factory to C. A. Carson Co., 6408 Euclid Ave., $50,000.

★**O., Fostoria**—Dale Body Co., c/o Allen Motor Car Co., let contract 1-story, 100x400-ft. autobody plant to E. L. Bartley, $100,000.

★**Mich., Detroit**—A. Krolik & Co., 138 Jefferson Ave., let contract 8-story warehouse, Jefferson and Randolph Sts., to H. Ericson, Detroit.

★**Mich., Detroit**—Michigan Copper & Brass Works, 1605 West Jefferson St., let contract addition to H. Carew, 210 Jos. Campau. About $110,000.

★**Ill., Aurora**—Allsteel Equipment Co., c/o Davidson & Weiss, archts., 53 West Jackson Blvd., Chicago, let contract plant to MacKimmie, 296 Iowa St., $50,000.

★**Ill., Chicago**—Bauer & Black Co., 45 West 25th St., let contract 3-story, 100x200-ft. chemical factory to J. F. & J. W. O'Connor, 189 West Madison St.

★**Ill., Chicago**—W. M. Derby, 108 South La Salle St., let contract service station and salesroom to W. H. Barry, 6810 Lakewood Ave., $70,000.

★**Ill., Chicago**—R. J. Ederer Co., 317 North Michigan Ave., let contract factory to H. Ericsson Co., 139 North Clark St., $200,000.

★**Wis., Fond du Lac**—Damrow Bros. Co., 39 3rd St., let contract, 3-story, 80x100-ft., factory to A. Beldin, 170 S. 4th St.

★**Wis., Milwaukee**—See "Reinforced Concrete."

★**Wis., Milwaukee**—Davis Mfg. Co., 57th Ave. and Mitchell St., let contract 150 x 261-ft. foundry to R. L. Reisinger Co., 1st National Bank Bldg.

★**Wis., Milwaukee**—C. A. Krause Milling Co., 37th Ave., and Burnham St., let contract additions to Foster Constr. Co., Caswell Blk., $150,000.

★**Wis., St. Francis**—Valley Steel Co., Milwaukee, let contract through W. E. Moore & Co., engrs., Union Bank Bldg., Pittsburgh, for 85 x 680-ft., steel, brick and concrete mill, here, to Worden-Allen Co., Port Washington Rd., Milwaukee.

★**Ia., Des Moines**—Carpenter Paper Co., 214 Court Ave., let contract factory to C. Weitz Sons, 713 Mulberry St., $60,000.

★**Ia., Dubuque**—Blake Milling Co., Edwardsville, Ill., let contract flour mill to Burrell Engr. Co., 327 South La Salle St., Chicago, $75,000.

★**Ont., Hamilton**—Natl. Abrasive Co. let contract factory to Canadian Constr. Co., Bank of Hamilton Bldg., $75,000. Noted May 10.

★**Sask., Saskatoon**—See "Reinforced Concrete."

BUILDINGS

Proposed Work

Mass., Boston—Theater—Codman Square Theater Co. plans 2-story, 70 x 230-ft. brick. About $175,000. J. McGinniss, 16 Arlington St., archt.

R. I., Woonsocket—Grammar School—Bd. Educ. plans, Olo St. About $50,000. J. J. Gearon, ch. bldg. com. W. F. Fontaine, 285 Main St., archt.

Conn., Ansonia—Bank—Ansonia Natl. Bank, 165 Main St., having plans prepared by Mowbray & Uffinger, archts., 56 Liberty St., New York City, 1-story, granite, limestone or art stone. About $60,000.

Buildings (Continued)

Ct., Bridgeport—Store and Hotel—F. Canevari having plans prepared by Davis & Dane, archts., Connecticut Bank Bldg., 4-story, brick, Main St. and Union Sq. About $50,000.

N. Y., Albany—Parish House—St. John's Evangelical Lutheran Congregation had plans prepared by Loth & White, archts., 130 State St., 2½-story, 50 x 102 ft. About $60,000. Y. Brant, 166 Central Ave., pastor.

N. Y., Auburn—Exchange—New York Telephone Co., 15 Dey St., New York City, having plans prepared by E. A. Munger, engr., c/o. Telephone Co., 3-story, 57x92-ft. About $115,000.

N. Y., Binghamton—School—Bd. Educ. having plans prepared by T. I. Lacey, archt., 1110 Press Bldg. About $150,000. W. C. Bates, pres.

N. Y., Buffalo—High School—City had plans prepared by H. Beck, archt., Municipal Bldg., 2-story. About $200,000.

N. Y., Cohoes—High School—Bd. Educ. plans, Tooker & Marsh, 103 Park Ave., New York City, archts. C. V. Merrick, 51 State St., Albany, advising archt.

N. Y., Granville—Hotel—Central House had plans prepared by H. Rogers, archt., 467 Bway., Albany, 4-story, 38 x 118-ft. E. M. Copps, proprietor. Noted May 3.

N. J., Bayonne—School—Bd. Educ. had plans prepared by D. G. Anderson, archt., 29 East 49th St., New York City. Eadle, Freund & Campbell, 7 West 45th St., New York City, engrs.

N. J., Glassboro—School—Bd. Educ. plans, 2-story, Academy St. About $75,000. Moffett & Stewart, archts., 30 North 3rd St., Camden, soon receives bids. Noted May 24.

N. J., Newark—Theater, Store, Office and Lodge—A. W. Moore, 22 Green St., had plans prepared by H. Baechlin, archt., 665 Broad St., 2-story, 125 x 150-ft. About $55,000.

Pa., Doylestown—School—Natl. Farm School, c/o H. D. Allman, 1001 Chestnut St., Phila., plans 2½-story addition. About $50,000. Magaziner & Potter, archts., 603 Chestnut St., Phila., soon receive bids.

Pa., Homestead—Hospital—Homestead Hospital conducting campaign to raise $100,000 to build. B. B. Wolf, pres.

Pa., Lansdale—Church and Parsonage—Methodist Episcopal Congregation plans. About $50,000. H. H. Reidler, Broad St., chn. bldg. com. G. E. Savage, archt., Witherspoon Bldg., Phila., soon receives bids.

Pa., Palmerton—Bank—1st Natl. Bank had plans prepared by Ruhe & Lang, archts., 12 North St., Allentown. About $50,000.

Pa., Pittsburgh—Church, School, Convent and Parish House—St. Peter's Congregation soon receives new bids, 2-story, 44 x 108-ft. church, 36 x 105-ft. schoool, 33 x 33-ft. each parish house and convent. E. Lisotto, 559 Lenora St., archt. Former bids rejected.

Del., Newark—Dormitory—Delaware College having plans prepared by Day & Klauder, archts., 925 Chestnut St., Phila., 3- and 4-story, 30x200-ft., concrete and marble.

Va., Richmond—Bank—Federal Reserve Bank, 109 East Main St., having plans prepared by Sill, Buckler & Fenhagen, archts., 11 East Pleasant St., 5-story.

Ala., Montgomery—Annex—Southern Bell Telephone and Telegraph Co., Telephone Bldg., plans 4-story annex. About $100,000.

Tenn., Lewisburg—High School—County defeated $55,000 bonds to build school. Noted Apr. 5.

Ky., Louisville—Hotel—Phœnix Hotel Co. purchased site, Cheapside and Short Sts., and will build, 10-story.

O., Cleveland—School—Bd. Educ. had plans prepared by W. R. McCormack, archt., 2-story addition to Rice School. About $160,000. Noted May 24.

O., Cleveland—School—F. G. Hogan, dir. pub. schools, East 6th St. and Rockwell Ave., having plans prepared by W. R. McCormack, archt., 2-story addition to North Doan Schoool. About $110,000.

O., Cuyahoga Falls—High School—Town will sell $50,000 bonds June 14 to build high school. N. H. Rook, clk. Noted May 17.

O., Lakewood—Schools—City plans to hold election to vote on $620,000 bonds to build schools.

O., Martins Ferry—School—H. H. Ruyhmiller, city clk., will sell $150,000 bonds June 20 to build school. Noted May 10.

O., Portsmouth—Church—United Brethren Congregation, 517 Glover St., had plans prepared by DeVoss & Donaldson, archts., 1st Natl. Bank Bldg., 1-story, 85 x 107-ft. About $50,000. O. L. Barngrover, pastor. Noted May 3.

O., Sandusky—Church—Methodist Episcopal Congregation had plans prepared by O'Donnel & Wolfe, archts. About $70,000.

O., Springfield—Office—Ohio Chemical Co. soon lets contract, 6-story, 50 x 102-ft., brick and terra cotta, Fountain and High Sts. R. C. Gotwald, Gotwald Bldg., archt.

O., Toledo—High School—Bd. Educ. voted $500,000 bonds to build high school on South Side.

O., Youngstown—Library—City soon lets contract, 4-story, 100 x 200-ft. D. J. Jones, clk. McKim, Mead & White, 101 Park Ave., New York City, archts.

Ind., Crawfordsville—High School—Bd. Educ. Clark Twp. had plans prepared by R. F. Daggert, archt., 926 Lemke Annex, Indianapolis, 2-story addition. L. N. Hines, supt.

Ind., Laporte—Church—St. Peter's Congregation having plans prepared, 2-story. About $65,000. G. Schramm, pastor. Worthmann & Steinbach, 155 North Clark St., Chicago, archts.

Ind., Richmond—Lodge and Office—Knights of Pythias plan. About $70,000.

Mich., Detroit—School—Bd. Educ. granted appropriation of $120,000 for addition to Greusel School. C. A. Gadd, 50 Bway., business mgr. Malcomson & Higginbotham, 404 Moffat Bldg., archts.

Ill., Chicago—Hotel—S. T. Cooper, 111 West Washington St., plans, 11-story, 75 x 125-ft. About $1,250,000.

Ill., Chicago—Theater, Store and Office—Estate of C. Kohl, c/o M. Beck, 22 West Monroe St., had plans prepared by C. W. & G. L. Rapp, archts., 69 West Washington St., Chicago, and G. A. Landsburgh, 709 Mission St., San Francisco, associate archts., 16-story, 163 x 180-ft. About $1,000,000.

Ill., Chicago—School—Post-Graduate Medical School, Dearborn and 24th Sts., plans 6-story addition. About $100,000.

Wis., Green Bay—School—Bd. Educ. had plans prepared by Foeller & Schober, archts., 123 North Washington St., rebuilding Whitney Grade School, 3-story, 60 x 147-ft., with 44 x 53-ft. wing. About $90,000. A. W. Burton, secy.

Wis., Niagara—Grade School—Dist. No. 7 voted $50,000 bonds to build grade school. D. Huper, Spies Bldg., Menominee, Mich., archt.

Ia., Bronson—School—City voted $50,000 bonds to build school. Plans will be prepared. F. H. Oertel, secy. Noted Apr. 26.

Ia., Davenport—Schools—Bd. Educ. retained Temple & Burrows, archts., 63 Davenport Savings Bank Bldg., to prepare plans, 2-story. About $450,000. J. D. McCollister, 1130 Main St., secy. Noted Apr. 5.

Ia., Fairfield—Bank—Iowa State Savings Bank plans, 2-story, 50 x 88-ft. P. V. Hyland, archt., 29 East Madison St., Chicago, soon receives bids.

Ia., Le Mars—(Official)—Hospital—Sisters of St. Francis will receive bids in September. About $85,000. W. L. Stelle, archt., United Bank Bldg., Sioux City, preparing plans. Noted May 10.

Ia., Mingo—School—Bd. Educ. Consolidated Dist. plans election to vote on $50,000 bonds to build school.

Ia., Traer—School—City will hold election June 4 to vote on $62,000 bonds to build school.

Minn., Finlayson—School—Bd. Educ. having plans prepared by Kelly & Shefchik, archts., 1st Natl. Bank Bldg., Duluth, for school. About $50,000.

Minn., New Ulm—(Official)—City Hall—City voted $50,000 bonds to build school, but on account of high cost of material project was postponed indefinitely. Noted May 10.

Minn., Randolph—School—Randolph Consolidated School Dist. had plans prepared by Tyrie & Chapman, archts., Auditorium Bldg., Minneapolis, 2-story. About $50,000. C. L. Pillsbury, 805 Metropolitan Life Bldg., Minneapolis, mech. engr.

Minn., St. Cloud—School—Bd. Educ. voted $100,000 bonds to build school. J. Adams, clk.

Minn., Warroad—School—Bd. Educ. voted $50,000 bonds to build school.

Kan., Independence—High School—Bd. Educ. defeated $300,000 bonds to build school. G. H. Piper, clk. Noted May 3.

Kan., Salina—School—Bd. Educ. plans, 2-story. About $80,000. W. T. Smith, archt., Oklahoma, receives bids about June 15.

Kan., Wichita—Office—Southwest Publishing Co. plans, 11-story, brick, terra cotta and rein. con. About $330,000. W. G. Charles, 601 Schweiter Bldg., archt.

Neb., Hastings—High School—Bd. Educ. purchased site and will construct high school. About $175,000.

S. D., Mt. Vernon—School—City voted $50,000 bonds to build school.

S. D., Wessington Springs—High School—Bd. Educ. having plans prepared by Edwins & Edwins, archts., 910 N. W. Bldg., Minneapolis, 2-story. About $55,000. C. Gell, clk. Noted May 3.

N. D., LaMoure—High School—Bd. Educ. had plans prepared by W. F. Kurke, archt., Huntington Blk., Fargo, 2-story. About $80,000. C. E. Sabin, supt.

N. D., Minot—Bank and Office—Brush, Williams Co. had plans prepared, 6-story, 25 x 140-ft. About $50,000. C. H. Mott, pres. Tullgren & Son, 1st Natl. Bank Bldg., Milwaukee, archts.

Mo., Boonville—School—Kemper Military School having plans prepared by T. W. Bast, archt., Citizens Natl. Bank Bldg., Sedalia, 4-story, 130 x 130-ft. About $100,000.

Mo., St. Louis—Theater—Melba Amusement Co. plans, Grand and Miami Sts. About $75,000. Maritz, Henderson & Tichschmidt, New Bank of Commerce Bldg., archts.

Mo., St. Louis—School—Bd. Educ. receiving bids in June for Penrose School, 2-story, 80 x 140-ft. About $245,000. R. M. Milligen, archt. Noted May 3.

Mo., St. Louis—Bank—American Trust Co., Bway. and Locust St., plans. About $250,000. T. P. Barnett Co., archts., 705 Olive St., soon receive bids. Noted May 17.

Tex., Corsicana—Schools—City plans election to vote on $250,000 bonds to build schools.

Okla., Shawnee—Schools—Bd. Educ. voted $300,000 bonds to build 2 grade schools and improving high school.

Colo., Littleton—School—Bd. Educ. School Dist. No. 6 election June 9 to vote on $55,000 bonds to build school.

Ore., Portland—Penitentiary—State will hold election June 4 to vote on $400,000 bonds to build penitentiary.

Cal., Alturas—Office, Etc.—See "Reinforced Concrete."

Cal., Oxnard—Bank—1st Natl. Bank plans on 5th St. About $75,000.

Cal., Richmond—Bath-House—City defeated $70,000 bonds to build bath-house. Noted Apr. 17.

BIDS DESIRED

N. Y., New York—Armory—Until June 12 by J. P. Mitchell, mayor, for new 8th coast defence command armory, Jerome Ave. and Kingsbridge Rd., Boro. of Bronx.

N. Y., NewYork—School—Until June 4 by C. B. J. Snyder, supt. school bldgs., dept. educ., Park Ave. and 59th St., addition to P. S. No. 32 on East 183rd St., between Cambreleng and Belmont Aves., Boro. of Bronx.

N. Y., Niagara Falls—(Official)—Police Station—Until June 11 by City Mgr., rein.-con., brick and stone. About $57,000. Wright & Kremers, 406-8 Gluck Bldg., archts. Noted May 10.

N. Y., Pawling—School—Until June 4 by Village, 2-story, 59x80-ft. brick and steel. A. Hopkins and C. S. Keefe, 101 Park Ave., New York City, archts.

Fla., Clearwater—Court House and Jail—Until June 19 by Co. Comrs., 2-story, 100x150-ft. About $160,000. F. J. Kennard, Amer. Natl. Bank Bldg., Tampa, archt.

Miss., Senatobia—(Official)—School—Until June 5 by Bd. Trustees Arkabutla Consolidated School Dist. R. B. Spencer, 205-6 New Millsap's Bldg., Jackson, archt.

Tenn., Isabella—(Official)—Grammar School—Until June 10 by W. F. Lamoreaux, chn. bldg. com., W. H. Sears, James Bldg., Chattanooga, archt.

O., Dublin—Grade and High School—Until June 8 by N. Dominey, clk. bd. educ., Washington Twp., 2-story. Howard & Merriam, 8 East Broad St., Columbus, archts. About $50,000. Noted Apr. 19.

O., Greenville—(Official)—Hospital—Until June 9 by O. R. Krickenberger, pres., Greenville Hospital Co. E. J. Mounstephen, 803 U. B. Bldg., Dayton, archt.

O., Lebanon—High School—Until June 22 by Bd. Educ. Lebanon Village School Dist. About $75,000. W. C. Maple, clk. Bausmith & Drainie, 901 Gerke Bldg., Cincinnati, archts.

Ind., Rockport—Infirmary—Until June 4 by F. Stocking, co. aud.

Ill., Urbana—(Official)—University—Until June 11 by J. M. White, superv. archt. (postponed from May 30 as previously advertised). Noted Apr. 26; advertised in this issue.

Ia., Centerville—High School—Until June 12 by J. B. Bruckshaw, secy. bd. educ., 2-story. About $125,000. M. B. Cleveland, 603 1st Natl. Bank Bldg., Waterloo, archt. Noted May 24.

Ia., Epworth—Grade and High School—Until June 18 by C. B. Hanna, secy. school dist., 2-story, brick. H. E. Netcott, Independence, archt.

Neb., York—(Official)—School—Until June 7 by W. W. Wyckoff, secy. bd. educ. Berlinghof & Davis, 414 Security Mutual Life Bldg., Lincoln, archts. Noted May 3.

Tex., Austin—(Official)—School—Until June 18 by J. E. Ferguson, governor, for additions to State School for Blind. A. B. Ayres, 626-627 Bedell Bldg., San Antonio, archt.

Tex., Clarendon—(Official)—Until June 5 by C. W. Taylor, secy. Y. M. C. A. for building.

Okla., Colbert—(Official)—School—Until June 4 by Bd. Educ., rein.-con. and brick. J. Hicks, Durant, archt.

Okla., Miami—Hotel—Until June 15 by Miami Hotel Co. 7-story, brick, stone and concrete. About $200,000. A. J. Bellis, 615 Orear-Leslie Bldg., Kansas City, Mo., archt. Noted May 17.

Ariz., Metcalf—School—Until June 5 by W. E. Kelly, clk. school dist. No. 13.

Buildings (Continued)

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Mass., Andover**—Parochial School—St. Augustine Congregation let contract, 2-story, 75x80-ft., brick and stone, to P. Hardy, North Andover.

★**Mass., Athol**—Y. M. C. A. let contract 3-story addition to building to L. B. Taylor, Starrett Bldg.

★**Conn., Waterbury**—Club—Waterbury Club let contract to Sperry Engr. Co., 82 Church St., New Haven, $200,000.

★**Conn., Waterbury**—Office—Chase Rolling Mill Co. and Chase Metal Works, North Main St., let contract, 4-story, 97 x 243-ft., to T. Starrett Co., 19 Wall St., New York City.

★**N. Y., Amsterdam**—School—Bd. Educ. let contract, Academy St., to H. C. Grieme Co., Erie St., $80,000. Noted May 3.

★**N. Y., Brooklyn**—Bank and Office—Court & Remsen Co., Inc., c/o Starrett & Van Vleck, archts., 8 West 40th St., New York City, let contract to Starrett & Goss, 103 Park Ave., New York City, $500,000.

★**N. Y., Buffalo**—Nurses Home—Buffalo General Hospital, 100 High St., let contract to J. W. Cowper & Co., Inc., Fidelity Bldg., $250,000. Noted May 3.

★**N. Y., Ft. Edward**—Church—St. Joseph's Congregation let contract church on Bway to P. Keeler Bldg. Co., 425 Orange St., Albany, $70,000. Noted Apr. 26.

★**N. Y., Port Henry**—High and Grade School—Bd. Educ. reawarded contract to J. Dyer, Jr., 6 South Pearl St., Albany, $75,000.

★**N. Y., Solvay**—Bank—J. H. Craig, 511½ Milton Ave., let contract, 4-story, 40x60-ft., to J. F. O'Connor, 420 Elm St., Syracuse.

★**N. J., Asbury Park**—Natatorium—See "Reinforced Concrete."

★**N. J., Newark**—Office—Mutual Benefit Life Insurance Co., 752 Broad St., let contract, Broad St., to New Jersey Cement Constr. Co., Inc., 359 Park Ave.

Md., Baltimore—School—Bd. Educ. received low bid Linwood Ave. School, from J. L. Robinson Constr. Co., Knickerbocker Bldg., $125,000.

★**Ga., Lagrange**—Bank—Lagrange Natl. Bank let contract to Hoggson Bros., 485 5th Ave., New York City, $70,000.

Miss., Tupelo—Hotel—Tupelo Hotel Co. let contract to Leake & Goodlet, Tupelo. Noted Apr. 5.

★**O., Celina**—(Official)—School—Trustees Immaculate Conception Congregation let contract to W. Brodbeck, St Mary's. About $50,000. Noted May 17.

★**Ind., Lafayette**—(Official)—Armory—Purdue University let contract to L. Colvin, 24th and Walton Sts., Anderson, $164,800. Noted May 17.

★**Mich., Grand Rapids**—(Official)—Bd. Educ. let contract addition to Union High School to Gentz Bros., Grand Rapids, $70,000. Noted May 10.

★**Wis., Eau Claire**—(Official)—Auditorium and Armory—City let contract to Hoeppner Bartlett Co., Eau Claire, $78,000. Noted May 10.

★**Wis., Fond du Lac**—Club—Kohler Improvement Co. let contract building for American Club to Imel Constr. Co., Fond du Lac, $125,000.

Wis., La Crosse—Sanatorium—County Bd. Supervs. received low bid from A. P. Hill Constr. Co., 4752 Upton Ave., S., Minneapolis, $49,310.

Ia., Marshalltown—(Official)—Soldiers' Home received low bid addition to Old Peoples' Bldg. from C. E. Atkinson, Webster City, $53,250.

★**Ia., Mason City**—Church—First Presbyterian Congregation let contract to W. O'Neil Sons Co., Faribault, Minn., $80,000.

★**Minn., Argyle**—Industrial and Community High School—Industrial School No. 2 let contract to F. L. Johnson & Son, 115 East 7th St., Duluth.

★**Kan., Hoxie**—(Official)—Courthouse—County let contract to G. Cope, Kansas City. About $50,000. Noted May 10.

★**Kan., Salina**—Freight Depot—Union Pacific Ry. let contract to Eberhardt Constr. Co., Salina, cost $80,000.

★**Neb., Hastings**—High School—Bd. Educ. let contract, brick, stone and concrete, to Olson & Johnson, 1st Natl. Bank Bldg., Omaha $125,000. Noted May 17.

★**S. D., Lake Andes**—Court House—County let contract to A. M. Wold, Brookings, $150,000. Noted May 3.

★**Tex., Paris**—School—City let contract to Owings, Shafner & Co., $51,000.

★**Colo., Colorado Springs**—Hotel—Broadmoor Hotel and Land Co. let contract to J. Stewart Constr. Co., 30 Church St., New York City.

★**Ariz., St. Johns**—(Official)—Courthouse—County let contract to N. P. Olson Constr. Co., St. Johns.

FEDERAL GOVERNMENT WORK

Proposed Work

N. H., Portsmouth—Pier—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., received no bids, May 21 pier for fitting out slip at Navy Yard. Noted May 10.

La., New Orleans—Crane—Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., rejected bids furnishing 2-ton floating crane. Noted May 17.

BIDS DESIRED

N. Y., New York—Dredging—Until June 23 by U. S. Engr. Office, Room 802, Army Bldg., 39 Whitehall St., New York, dredging in Passaic River, N. J.; advertised in this issue.

N. Y., New York—Structural Shop—Until June 4 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., Navy Yard. Noted May 24.

Pa., Ft. Mifflin—(Phila. P. O.)—Mine Storage Building Until June 11 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., Naval Ammunition Depot. Noted May 17.

Pa., Monessen—Post Office—Until June 26 by J. A. Wetmore, superv. archt., treas. dept., Wash.

Pa., Phila.—Caisson Gates—Until June 11 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., for dry docks at Phila. and Norfolk, Va., Navy Yards. Noted May 17.

Wash., D. C.—Buildings—Until June 25 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., 14 magazine buildings as follows: 7 for Lake Denmark, Dover, N. J.; 2 for Iona Island, N. Y.; and 5 for Hingham, Mass. Noted May 17.

Wash., D. C.—Building—Until June 4 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., extension to Building No. 16, St. Juliens Creek, Va.

Wash., D. C.—Coast Guard Station—Until June 14 by Navy Dept., U. S. Coast Guard Headquarters, Wash., for Coast Guard Station No. 184, Creeds Hill, N. C.; advertised in this issue.

Wash., D. C.—Dredging—Until June 14 by U. S. Engr. Office, 305 Southern Bldg., dredging in Potomac River at Washington, and Rappahannock River, Va.; advertised in this issue.

Wash., D. C.—Mine Storage Buildings—Until June 25 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., for 15 mine storage buildings, at following Naval Ammunition Depots: 6 for St. Juliens Creek, Va.; 3 for Newport, R. I.; 2 for Hingham, Mass.; 2 for Iona Island, N. Y.; 1 for Pensacola, Fla.; 1 for Guantanamo, Cuba. Noted May 17.

Va., Ft. Royal—Post Office—Until June 20 by J. A. Wetmore, superv. archt., treas. dept., Wash.

Va., Norfolk—Caisson Gates—See "Phila., Pa."

Va., Norfolk—Fence—Until June 4 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., fence for Navy Yard.

Fla., Pensacola—Storehouse and Magazine Buildings—Until June 18 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., 1 torpedo storehouse and 2 magazine buildings at Navy Aeronautic Station.

La., New Orleans—Coal—Until June 25 by U. S. Engr. Office, Customhouse, New Orleans, furnishing and delivering for U. S. Plant; advertised in this issue.

La., New Orleans—Willows and Poles—Until June 28 by U. S. Engr. Office, Customhouse, New Orleans, furnishing and delivering, for South and Southwest Passes, Mississippi River; advertised in this issue.

Mich., Detroit—Machinery and Valves—Until June 30 by U. S. Engr. Office, Detroit, installing, for 4th Lock, St. Marys Falls Canal, Mich.; advertised in this issue.

Tex., Galveston—Earthwork—Until June 20 by U. S. Engr. Office, Galveston, furnishing and placing fill, soil, sod and riprap at U. S. Reservation, Ft. Crockett.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Me., Portland**—Cement—U. S. Engr. Office, Portland, let contract furnishing cement, sand and rods to C. S. Chase, 5 Commonwealth St., Portland, cement, $26,650; P. H. Doyen, 40 Cottage St., South Portland, sand, $28,900; Concrete Steel Products Co., 7 Water St., Boston, reinforcing rods, $6166. Noted Apr. 5.

★**N. H. Portsmouth**—Coast Guard Station—U. S. Coast Guard, Wash., D. C., let contract Coast Guard Station No. 1, Quoddy, Me., to McDonald & Kivell, 10 High St., Boston, $9500, time to complete, Sept. 8. Noted May 24.

Mass., Boston—Coal Weighers—Bureau Yards and Docks, Navy Dept., Wash., received low bids, furnishing traveling coal weighers at central power plant, Navy Yard, (a) work complete, (b) alternate bid, from Guarantee Constr. Co., 140 Cedar St., New York City, (a) and (b) $12,610; 100 days; R. H. Beaumont Co., 426 Chester St., Phila., (a) $9200, (b) $9400; Richardson Scale Co., Athenia, N. J., (b) $25,510, 185 days. Noted May 10.

★**R. I., Newport**—Hospital—Bureau Yards and Docks, Navy Dept., Wash., let contract emergency hospital to M. F. Kelley, 51 East 42nd St., New York City, at cost plus 10%; estimated cost, $95,000.

★**N. Y., New York**—Dredging—U. S. Engr. Office, Room 802, Army Bldg., 39 Whitehall St., let contract dredging in Staten Island Sound to E. Breyman, Boston, $166,772. Noted Apr. 26.

Pa., Indiana—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received only bid, May 24, (a) limestone, (b) sandstone, from W. H. Fissell & Co., 1133 Bway., New York City, (a) $58,700, (b) $60,700. Noted Apr. 26.

★**Pa., Phila.**—Pumping Plants—Bureau Yards and Docks, Navy Dept., Wash., let contract, for use at dry docks, Phila. and Norfolk, Va., to Worthington Pump and Machinery Corp., 115 Bway., New York City, $366,981. Noted May 24.

Pa., Phila.—Storehouse—Bureau Supplies and Accounts, Navy Dept., Wash., received low bids, May 21, for Navy Yard, from Industrial Engr. Co., 30 Church St., New York City, $566,000; J. H. Miller, Inc., Baltimore, Md., $578,000; Turner Concrete Steel Co., 1713 Sansom St., Phila., $588,887; Boyle-Robertson Constr. Co., Evans Bldg., Wash., cost plus 6%. Noted May 10.

Wash., D. C.—Air Compressors—Bureau Yards and Docks, Navy Dept., Wash., received bids, May 21, furnishing at various Navy Yards and Naval Stations, (a) each 8000 cu.ft. turbine-driven air compressor, (b) each 5000 cu.ft. same, (c) each 3500 cu.ft. same, (d) each 2500 cu.ft. same, (e) each 6500 cu.ft. same, (f) each 5000 cu.ft. reciprocating air compressor, (g) each 3500 cu.ft. same, (h) each 2500 cu.ft. same, from Ingersoll-Rand Co., 11 Bway., New York City, (a) $64,450, (b) $64,575, (c) $111,480, (d) $56,150, (e) $46,375, (f) $46,375, (g) $66,350, (h) $32,530; Worthington Pump and Machinery Corp., 111 Bway., New York City, (c) $45,755, (d) $46,315, (e) $55,130, (f) $55,130, (h) $29,975. Noted May 3.

★**Wash., D. C.**—Buildings—Bureau Yards and Docks, Navy Dept., let contract repairs and improvements to Naval Hospital to W. E. Mooney, Evans Bldg., $38,367. Noted May 24.

Wash., D. C.—Turbo-generators, etc.—Bureau Yards and Docks, Navy Dept., received low bids furnishing and installing 500 and 750 kw. turbo-generators and 2500, 3125, 3750 and 4375 kv.-a. turbo-alternators for various navy yards from Westinghouse Electric & Mfg. Co., Hibbs Bldg., Wash., and General Electric Co., River Rd., Schenectady. Noted May 10.

★**Wash., D. C.**—Water Meters—Dist. Comrs. let contract to Worthington Pump & Machinery Corp., 115 Bway., New York City, $7.75 each. Noted Apr. 26.

★**Va., Norfolk**—Foundry Building—Bureau Yards and Docks, Navy Dept., Wash., let contract to G. E. Wyne, Munsey Bldg., Wash., $370,000. Noted May 10.

★**Va., Norfolk**—Hospital—Bureau Yards and Docks, Navy Dept., Wash., let contract emergency hospital to Newport Engr. & Contr. Co., Newport News, at cost plus 10%, estimated cost, $95,000. Noted May 24.

★**Va., Norfolk**—Machine Shop—Bureau Yards and Docks, Navy Dept., Wash., let contract machine shop to G. E. Wyne, Munsey Bldg., Wash., $553,666. Noted May 10.

★**Ga., Fitzgerald**—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., let contract to Wise Granite & Constr. Co., Amer. Natl. Bank, Richmond, Va., $41,900. Noted May 24.

Fla., Lakeland—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids, (a) limestone, (b) sandstone, from Wise Granite & Constr. Co., American Natl. Bank Bldg., Richmond, (a) $45,500, (b) $46,500; W. H. Fissell & Co., 328 Bway, New York City, (a) $50,865, (b) $51,865; A. Blair, Hill Bldg., Montgomery, Ala., (a) $51,350. Noted May 17.

★**Fla., Pensacola**—Hangars and Erecting Shop—Bureau Yards and Docks, Navy Dept., Wash., let contract, Pensacola Naval Station, to H. Monk, Pensacola, $359,900. Noted May 17.

★**Fla., Pensacola**—Hospital—Bureau Yards and Docks Navy Dept., Wash., let contract emergency hospital to H. Monk, Pensacola, at cost plus 10%; estimated cost, $150,000.

Fla., Pensacola—Observation Tower—Bureau Yards and Docks, Navy Dept., Wash., received only bid constructing 200-ft. steel observation tower at Navy Aeronautic station, from Penn Bridge Co., Bond Bldg., Wash., $28,455. Noted May 10.

★**La., New Orleans**—Hospital—Bureau Yards and Docks, Navy Dept., Wash., let contract emergency hospital to J. Thatcher & Sons, 60 Park Ave., Brooklyn, N. Y., at cost plus 10%, estimated cost, $140,000.

★**La., New Orleans**—Storage Shed—Bureau Yards and Docks, Navy Dept., Wash., let contract to Penn Bridge Co., Bond Bldg., Wash., $42,370. Noted May 24.

O., Washington C. H.—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received only bid, May 25, from Ohio Bldg. & Constr. Co., Burnett St., near McMillan St., Cincinnati, limestone $78,500, sandstone, $78,900. Noted Apr. 26.

Federal Government Work (Continued)

★**Mich., Detroit**—Timber—U. S. Engr. Office, Detroit, let contract furnishing 1,226,000 ft. fir timber to Saari & Tully Lumber Co., G. W. Bank Bldg., Portland, Ore., $15,630. Noted May 17.

★**Mich., Port Huron**—Dredging—U. S. Engr. Office, Detroit, let contract dredging Black River, at Port Huron, to Great Lakes Dredge & Dock Co., 104 South Michigan Ave., Chicago, $32,000. Noted May 24.

★**Mich., Saulte Ste. Marie**—Electric Cables and Wire—U. S. Engr. Office, Detroit, let contract furnishing and delivering electric cables and wire at Saulte Ste. Marie to Standard Underground Cable Co., 50 Church St., New York City. Noted Apr. 5.

Ill., Charleston—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received bids, May 25, from G. W. Stiles Constr. Co., Rookery Bldg., Chicago, $46,236; Dunlap & Co., Columbus, O., $47,850; C. D. Mitchell & Son, Charleston, $51,000. Noted May 17.

★**Ia., Cedar Falls**—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., let contract to C. Weitz Sons, 713 Mulberry St., Des Moines, $49,990. Noted May 24.

Minn., Duluth—Dredging—U. S. Engr. Office, Duluth, received low bids, dredging Duluth-Superior Harbor, Minn., and Wis., (a) 2,904,000 cu.yd. (b) hydraulic dredging, 300,000 cu.yd., from L. C. Merritt, Duluth, (a) 14c. per cu.yd., (b) 14c.; Great Lakes Dredge & Dock Co., 15th floor, Alworth Bldg., (a) 13c.; Zenith Dredge Co., 303 Glencoe Bldg., (a) 13½c., (b) 13½c.; Duluth-Superior Dredging Co., foot of 45th Ave., W., (a) 12½c., (b) 12½c. Noted Apr. 26.

Kan., Girard—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids, limestone, from C. Weitz Sons, 713 Mulberry St., Des Moines, $47,900; W. D. Lovell, 1415 South East 8th St., Minneapolis, $47,875. Noted May 17.

★**Mont., St. Ignatius**—Canal Work—U. S. Rec. Ser., St. Ignatius, let contract Schedules 1, 2, 3 and 4, for earthwork on Camas division laterals B, C and D, Flathead Irrigation Project, to Ball & Jaffe, Seattle Wash., $48,197; Schedules 5 and 6, extension of laterals A and C to Mendenhall & Bird, Springfield, Utah, $10,127. Noted Apr. 26.

★**Mo., St. Louis**—Levee Work—Mississippi River Comn., 1311 International Life Bldg., let contract 110,000 cu.yd. earthwork in Riverland Levee Dist. to F. C. Morgan, Indianapolis, $17,600. Noted Apr. 19.

★**Ark., Prescott**—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., let contract to A. Blair, Hill Bldg., Montgomery, Ala., $47,300. Noted May 17.

★**Tex., Commerce**—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., let contract to A. Blair, Hill Bldg., Montgomery, Ala., $43,752. Noted May 10.

Tex., El Paso—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids (a) limestone, (b) sandstone, from W. H. Maxwell, Lakeside, Wash., (a) $282,980; W. D. Lovell, 1415 8th St., S. E., Minneapolis, (a) $294,000; Kroeger, Mayfield & Shaw, El Paso, (a) $295,067, (b) $300,000. Noted Apr. 19.

★**Cal., Bolinas**—Coast Guard Station—U. S. Coast Guard, Wash., let contract Coast Guard Station No. 2 at Bolinas Bay, to J. E. Johanson, San Francisco, $9988. Noted May 24.

★**Cal., Vallejo**—Mess Hall—Bureau Yards and Docks, Navy Dept., Wash., let contract, Mare Island, Navy Yard, to W. Knowles, 425 Central Bank Bldg., San Francisco, $14,202.

★**Cal., Vallejo**—Shell House and Laboratory—Bureau Yards and Docks, Navy Dept., Wash., let contract Naval Ammunition Depot, Mare Island, to Lang & Bergstrom, Sharon Bldg., San Francisco, $21,934. Noted May 24.

MISCELLANEOUS

Proposed Work

Transmission Line—Easthampton, Mass.—Turners Falls Power and Electric Co. applied to Selectmen for permission to erect, from Easthampton town line across Hampton Plains to power station of local division of Springfield Street Ry., thence along Westfield River bank to town of Agawam. F. L. Hunt, Greenfield, ch. engr.

Transmission Line—Fall River, Mass.—Fall River Electric Light Co. applied to Massachusetts Gas and Electric Light Comn. for permission to erect, over Taunton River at point near Fall River plant, south of Slade's Ferry Bridge through Somerset, Swansea and Seekonk to Rhode Island state line. A. H. Kimball, 85 North Main St., genl. mgr.

Coal Pocket—Woonsocket, R. I.—Manufacturers' Power Co. purchased site, 2nd Ave. and River St., and will build, for power plant on Singleton St.

Rock Crusher—Syracuse, N. Y.—Common Council plans to purchase. About $10,000. H. C. Allen, city engr.

Asphalt Plant—Bayonne, N. J.—City Comn. plans to purchase, for street repair work. About $10,000. W. P. Lee, city clk.

Port Terminal—Bayonne, N. J.—City Comn. plans to hold election to vote on $8,000,000 bonds to build port terminal on New York Bay. W. L. Clarkson, city engr.

Transmission Line—Easton, Pa.—Pennsylvania Utilities Co. will erect double circuit 33,000-volt transmission line from Easton to Milford, Warren, Hughesville and Riegelsville, N. J., to furnish energy to paper mills of Warren Mfg. Co. requiring about 3500 hp. in motors. W. D. Ray, Easton, vice pres. and mgr.

Track Floors, Etc.—Phila., Pa.—See "Reinforced Concrete."

Elimination of Grade Crossings—Pittsburgh, Pa.—(Hazlewood)—Bd. Trade plans bond issue to eliminate 2 grade crossings in 2nd Ave. at Marion and Hazlewood Aves. and to improve thoroughfare from 10th St. Bridge to city line. R. Swan, city engr.

Parks—Va., Richmond—See "Water-Works."

Transmission Line—Bennettsville, S. C.—Southern Power Co., Charlotte, N. C., plans through Marlboro Co. passing near Bennettsville, McColl and Tatum. Plans include substation.

Drydock—Mobile, Ala.—Henderson Iron Works Co., Eslava St., plans 6000-ton floating drydock to operate in connection with its iron works.

Transmission Line—Lothair, Ky.—Kentucky River Power Co., Hazard, plans, from Lothair into Lotts Creek field to furnish electricity to coal mines. L. E. Woods, Welch, W. Va., pres.

Subway—Ashtabula, O.—Engr. Dept. New York Central R.R., Lines West of Buffalo completed plans subway at Center St., to be built by New York Central R.R., Pennsylvania Lines West of Pittsburgh, and City. Estimated cost, $380,000, railroads paying 65% of same. A bond issue will soon be voted on. L. A. Amsden, city engr. G. C. Cleveland, St. Clair Ave. and West 3rd St., Cleveland, ch. engr. former rr.

Flood Protection—Warren, O.—(Official)—G. T. Hecklinger, city aud., will sell $25,000 bonds, June 16, for straightening and improving Mahoning River to prevent floods.

Subway—Muncie, Ind.—R. H. Bunch, mayor, approved ordinance for subway at Elliott St., under tracks of Cleveland, Cincinnati, Chicago & St. Louis Ry. and Lake Erie & Western R.R. C. A. Paquette, Cincinnati, ch. engr. of former R.R. J. K. Conner, Washington and Noble Sts., Indianapolis, ch. engr. of latter.

Incinerating Plant—Kansas City, Mo.—City plans. C. Hill, city engr.

Harbor Improvements—Astoria, Ore.—Port of Astoria Comn. plans to improve harbor by deepening channels, including those in Youngs Bay, Youngs River, the Lewis and Clark and other streams in vicinity.

Shipways—Alameda Point, Cal.—(Alameda P. O.)—Barnes & Tibbits Shipbuilding Co., San Francisco, recently organized with $100,000 capital stock, will take over plant of Pacific Shipyards Co. and install 2 new shipways.

Shipways—Eureka, Cal.—Gastman Shipyards plan to lay 2 shipways and will purchase machinery for their operation.

Harbor—Redondo Beach, Cal.—R. S. Davidson & Co., 42 Bway., New York City, members of New York syndicate, presented proposal to City Council through L. B. Jennings for constructing harbor here. Terms require city to raise $3,000,000 and neighboring town of Hermosa Beach $100,000 by bond issue, Atchison, Topeka & Santa Fe Ry. and other business interests $600,000 cash. At expiration of 40-year lease ownership would divert to city. Plans include 13,500-ft. dockage, with provisions for enlargements as needed. Railroad Co. and City have signified their willingness to help finance this project.

Flood-Control Work—Sacramento, Cal.—Governor signed bill appropriating $500,000 for flood-control work in Lower Sacramento River.

Wharves, etc.—Burnaby, B. C.—Government asked to issue $1,500,000 bonds to establish wharves, etc. Hon. Dr. King, Victoria, minister pub. wks.

Harbor, Etc.—Mexico, Mex.—Dept. Pub. Wks. of Federal Government had plans prepared for deep-water harbor and extensive port works at Behia Espiritus, Santo Bay, on coast of Territorio Quintana Roo. United Railroads of Yucatan will build extension to harbor, about 100 mi. Julio Rendon, Merida, Yucatan, Mex., gen. mgr., of Ferrocarriles Constitucionalistas En Yucatan, interested.

BIDS DESIRED

Tunnel Improvements—Boston, Mass.—Official)—Until June 7 by B. L. Beal, secy. Boston Transit Comn., 15 Beacon St., setting about 3800 sq.yd. ribbed tile on walls, putting on Portland cement plaster for straightening walls, and setting about 800 sq.yd. ribbed tile for partitions in Bway, and Andrew stations of Dorchester Tunnel.

Castings—New York, N. Y.—Until June 7 by W. Williams, comr. water supply gas and electricity, Room 2351 Municipal Bldg., furnishing, delivering unloading, stacking and storing cl. special castings.

Fire Escapes—Rochester, N. Y.—(Offi... Until June 8 by E. S. Elwood, secy. state hospital comn., Capitol, Albany, for Rochester State Hospital; advertised in this issue.

Transmission Line—Ft. Dodge, Ia.—Until June 5 by City Clk. for furnishing all tools and materials and erecting transmission line in city.

Fire-Alarm System—Placerville, Cal.—Until June 4 by O. E. Bailey, city clk.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Station Finish—Brooklyn, N. Y.**—(Official)—Pub. Ser. Comn. for 1st Dist., 120 Bway., New York City, let contract station finish for 9 stations on Eastern Pkwy. Subway and so-called Brighton Beach connection in Brooklyn to Soare & Triest Co., Woolworth Bldg., New York City, $464,543. Noted May 24.

Bulkhead—New York, N. Y.—See "Reinforced Concrete."

★**Ties and Timber—New York, N. Y.**—(Official)—Pub. Ser. Comn. for 1st Dist., 120 Bway., let contract supplying Order No. 4, untreated ties and timber for use on new rapid transit railroads, to J. H. Burton & Co., 45 Bway., $54,913. Noted May 10.

★**Garbage Incinerator—New Brunswick, N. J.**—City Comn. let contract to Nye Odorless Crematory Co., Macon, Ga., $22,800.

Riprap—Harrisburg, Pa.—Park Dept. received low bid ripraping river slopes, Calder to Maclay Sts., from Frank Baumgartner, Harrisburg, 95c. per sq.yd.

★**Park Work—Phila., Pa.**—Dept. Pub. Wks. let contract, constructing last section of League Island Park, west of Broad St. ,to E. H. Vare, Lincoln Bldg., $183,000. Noted May 3.

★**Piers—Phila., Pa.**—Pennsylvania R.R. let contract repairing 7 piers to Latta & Roberts, 5th and Chestnut Sts.

★**Station Platforms—Phila., Pa.**—See "Structural Steel."

★**Wharf—Phila., Pa.**—See "Industrial Works."

★**Transmission Line—Eastman, Ga.**—Georgia & Southern Utilities plans, from Eastman to Chauncey, thence to Milan and Ryan, 22,000 volt line to develop 200-hp., about 18-mi. Work will be done by company's forces. C. R. Hodgson, mgr.

★**Seawall—Biloxi, Miss.**—County let contract, from Biloxi to Pass Christian along lines of sloping beach, to Callahan Constr. Co., 1517-18 City Natl. Bank Bldg., Omaha.

★**Retaining Walls—Cincinnati, O.**—See "Streets and Roads."

★**Culverts—Roseau, Minn.**—(Official)—County let contract furnishing various sizes metal culverts to Russell Grader Mfg. Co., 2005 University Ave., S. E., Minneapolis. Noted May 17.

★**Monument and Fountain—Denver, Colo.**—J. R. M. Morrison, archt., 20 West Jackson Blvd., Chicago, let contract memorial monument and fountain, as gift for city, donator's name withheld, to Colorado Yale Marble Co., Marble, $100,000.

★**Dam—La Junta, Colo**—Nine Mile Canal Co. let contract dam across Purgatoire River to L. F. Williams, Pueblo, $10,000.

★**Pier—San Francisco, Cal.**—State Bd. Harbor Comrs. will build Pier No. 46 by day labor. Noted May 17.

TRADE CATALOGS

Link-Belt Wagon and Truck Loaders. Link-Belt Co., 39th St. and Stewart Ave., Chicago, Ill. Catalog No. 270; pp. 64; 6 x 9 in.; illustrated.

Gold's Thermostatic Heat Regulating System. Gold Car Heating and Lighting Co., 17 Battery Pl., New York City. Booklet; pp. 8; 3½ x 6 in.; illustrated.

Brownhoist Overhead Hand Traveling Cranes. The Brown Hoisting Machinery Co., Cleveland, O. Catalog P; pp. 36; 6 x 9 in.; illustrated.

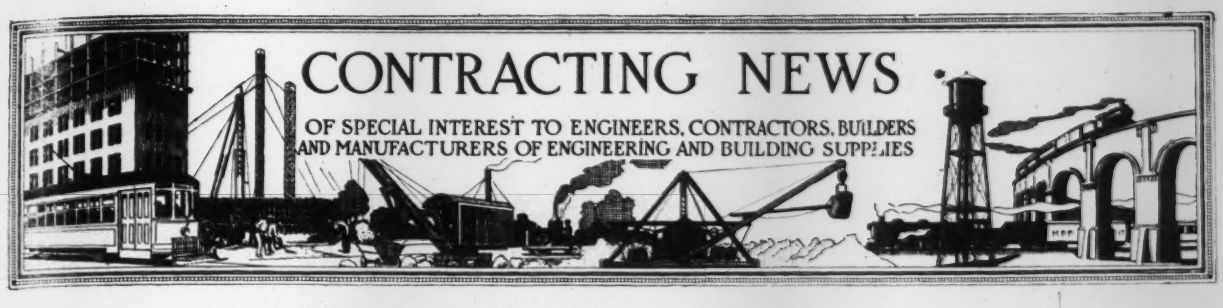
Penflex Metal Hose. Pennsylvania Flexible Metallic Tubing Co., Philadelphia, Pa. Catalog; pp. 32; 6 x 9 in.; illustrated.

"Imperial X" Duplex Steam-Driven Compressors. Ingersoll-Rand Co., 11 Broadway, New York City. Form No. 3311; pp. 20; 6 x 9 in.; illustrated.

"Little David" Pneumatic Drills. Ingersoll-Rand Co., 11 Broadway, New York City. Form No. 8507; pp. 40; 6 x 9 in.; illustrated.

"Reducing Ultimate Culvert Costs." United States Cast Iron Pipe and Foundry Co., Burlington, N. J. Pamphlet; pp. 24; 3½ x 6 in.; illustrated. Contains tables of thicknesses and list prices.

"About Culverts." The Sewer Pipe Manufacturers' Asssociation, Second National Bank Bldg., Akron, O. This is the title of a pamphlet describing vitrified clay pipe for culverts and side drains. Pp. 32; 6x 9 in.; illustrated.



Price advances are indicated **by heavy type**; declines by *italics*.

IRON AND STEEL

PIG IRON—Below are the present quotations, with a comparison of a month and a year ago:

	June 4, 1917	One Month Ago	One Year Ago
CINCINNATI			
No. 2 Southern foundry	**$42.90**	$37.90	$17.90@18.40
No. 2 Northern foundry	**43.00**	....	20.26
NEW YORK			
No. 2X Northern foundry	**45.75@46.25**	41.50	20.50@20.70
No. 2 plain Northern foundry	**45.25@45.75**	....	20.25@20.50
No. 2 Southern foundry†	**44.25**	....	20.25@20.50
BIRMINGHAM			
No. 2 Southern foundry	**39.00@41.00**	35.00	15.00
CHICAGO			
No. 2 Northern foundry	**46.00**	41.00	19.00
PITTSBURGH			
Bessemer iron*	**45.95**	42.95	21.85
Basic iron*	**42.00**	40.00	18.95

*These prices include the freight charge from the valley to the Pittsburgh district. †Delivered Tidewater, New York.

PIPE—The following discounts are for carload lots f.o.b. Pittsburgh, in effect May 1, 1917:

BUTT WELD

Steel Inches	Black	Galvanized	Iron Inches	Black	Galvanized
¾ to 3	**49%**	**35½%**	¾ to 1½	**38%**	**22%**

LAP WELD

2	**42%**	**29½%**	1¼	**23%**	**8%**
2½ to 6	**45%**	**32½%**	1½	**30%**	**16%**
7 to 12	**42%**	**28½%**	2	**31%**	**17%**
13 and 14	**32½%**	....	2½ to 4	**33%**	**20%**
15	**30%**	....	4½ to 6	**33%**	**20%**
			7 to 12	**32%**	**19%**

BUTT WELD, EXTRA STRONG PLAIN ENDS

¾ to 1½	**47%**	**34½%**	¾ to 1½	**38%**	**23%**
2 to 3	**48%**	**35½%**			

LAP WELD, EXTRA STRONG PLAIN ENDS

2	**40%**	**28½%**	1¼	**24%**	**9%**
2¼ to 4	**43%**	**31½%**	1½	**30%**	**16%**
4½ to 6	**42%**	**30½%**	2	**32%**	**19%**
7 to 8	**38%**	**24½%**	2¼ to 4	**34%**	**22%**
9 to 12	**33%**	**19½%**	4½ to 6	**33%**	**21%**
			7 to 8	**27%**	**15%**
			9 to 12	**22%**	**10%**

From warehouses at the places named the following discounts hold for steel pipe:

	Black		
	New York	Chicago	St. Louis
¾ to 3 in. butt welded	**44%**	**42.8%**	**41.27%**
3½ to 6 in. lap welded	**28%**	**38.8%**	**37.27%**
7 to 12 in. lap welded	....	**35.8%**	**34.27%**

	Galvanized		
	New York	Chicago	St. Louis
¾ to 3 in. butt welded	**28%**	**27.8%**	**26.27%**
3½ to 6 in. lap welded	**10%**	**24.8%**	**22.27%**
7 to 12 in. lap welded	....	**20.8%**	**19.27%**

Malleable fittings, Class B and C, from New York stock sell at 5 and 5% from list prices. Cast iron, standard sizes, 34 and 5%.

BARS, CONCRETE REINFORCING—The following quotations are per 100 lb.:

ROLLED FROM BILLETS

In.	Mill Shipment*	New York June 4, 1917	New York One Month Ago	Warehouse St. Louis	Warehouse Chicago	Warehouse San Francisco
¾ and larger	....	**$4.85**	$4.60	**$3.986**	**$4.50**	**$5.50**
⅝	....	**4.95**	4.70	**4.036**	**4.55**	**5.55**
½	....	**5.05**	4.80	**4.086**	**4.60**	**5.60**
⅜	....	**5.20**	4.95	**4.236**	**4.75**	**5.75**
¼	....	**5.55**	5.30	**4.486**	**5.00**	**6.06**

*Mill quotations can be obtained only on actual specifications.

ROLLED FROM RAILS

	St. Louis	Dallas		St. Louis	Dallas
¾ in. and larger	**$3.50**	**$4.50**	⅝	**$3.75**	**$4.75**
⅝	3.55	4.55	¼	4.50	5.00
½	3.60	4.60			

RIVETS—The following quotations are per 100 lb.:

STRUCTURAL

	Mill Pittsburgh	Warehouse New York	Chicago	St. Louis	San Francisco
¾ in. and larger	**$4.75**	**$6.50**	**$5.00**	**$5.05**	**$6.65**

CONE HEAD BOILER

¾ in. and larger	4.85	6.60	5.10	5.15	**6.75**
⅝ and ¾	5.00	6.75	5.25	5.30	**6.90**
½ and ⅝	5.35	7.10	5.60	5.65	**7.25**

Lengths shorter than 1 in. take an extra of 50c. Lengths between 1 in. and 2 in. take an extra of 25c.

SHEETS—Quotations are in cents per pound in various cities from warehouse, also the base quotation from mill:

Blue Annealed	Large Lots Pittsburgh	St. Louis	Chicago	San Francisco	New York June 4, 1917	New York One Mo. Ago
No. 10	**7.25**	**7.55**	**8.00**	**9.50**	**9.00**	6.80
No. 12	**7.50**	**7.60**	**8.05**	**9.55**	**9.05**	6.85
No. 14	**7.75**	**7.65**	**8.10**	**9.60**	**9.10**	6.90
Black						
Nos. 18 and 20	**7.30**	**7.85**	**7.80**	**9.57**	**9.30**	7.30
Nos. 22 and 24	**7.35**	**7.70**	**7.85**	**9.60**	**9.35**	7.35
No. 26	**7.40**	**7.75**	**7.90**	**9.65**	**9.40**	7.40
No. 27	**7.45**	**7.80**	**7.95**	**9.70**	**9.45**	7.45
No. 28	**7.50**	**7.85**	**8.00**	**9.75**	**9.50**	7.50
Galvanized						
No. 10	**8.50**	Premium	**9.20**	....	**10.95**	8.45
No. 12	**8.55**	Premium	**9.20**	**11.68**	**11.00**	8.50
No. 14	**8.60**	Premium	**9.20**	**11.68**	**11.05**	8.55
Nos. 18 and 20	**8.90**	Premium	**9.40**	**11.98**	**11.35**	8.85
Nos. 22 and 24	**9.05**	Premium	**9.55**	**10.12**	**11.55**	9.05
No. 26	**9.20**	Premium	**9.70**	**10.27**	**11.70**	9.20
No. 27	**9.35**	Premium	**9.85**	**10.42**	**11.85**	9.35
No. 28	**9.50**	Premium	**10.00**	**10.56**	**12.00**	9.50

STEEL RAILS—The following quotations are per ton f.o.b. Pittsburgh and Chicago for carload or larger lots. For less than carload lots 5c. per 100 lb. is charged extra:

	Pittsburgh June 4, 1917	Pittsburgh One Month Ago	Chicago June 4, 1917	Chicago One Month Ago
Standard bessemer rails	**$38.00**	$38.00	**$38.00**	$38.00
Standard openhearth rails	40.00	40.00	40.00	40.00
Light rails, 8 to 10 lb.	**63.00**	58.00	**63.00**	58.00
Light rails, 12 to 14 lb.	**62.00**	57.00	**62.00**	57.00
Light rails, 25 to 45 lb.	**60.00**	55.00	**60.00**	55.00

TRACK SUPPLIES—The following prices are base per 100 lb. f.o.b. Pittsburgh for carload lots, together with the warehouse prices at the places named:

	Pittsburgh June 4, 1917	Pittsburgh One Year Ago	Chicago	St. Louis	San Francisco
Standard railroad spikes	$3.85	$2.65	**$5.00**	**$5.05**	**$5.00**
Track bolts	**6.00**	3.25	6.25	5.75	**6.25**
Standard section angle bars	3.50	2.00	**4.00**	....	**6.50**

NAILS—The following quotations are per keg from warehouse:

	New York June 4, 1917	New York One Year Ago	St. Louis	Chicago	San Francisco
Wire	**$4.10**	$3.15	$4.00	$4.00	**$4.60**
Cut	4.40	3.15	4.00	**4.50**	5.05

STRUCTURAL MATERIAL—The following are the base prices f.o.b. mill, Pittsburgh, together with the quotations per 100 lb. from warehouses at the places named:

	Pittsburgh	New York June 4, 1917	New York One Yr. Ago	St. Louis	Chicago	San Francisco
Beams, 3 to 15 in.	**$5.00**	**$5.00**	$3.50	**$5.05**	**$5.00**	**$6.50**
Channels, 3 to 15 in.	**5.00**	**5.00**	3.55	**5.05**	**5.00**	**6.50**
Angles, 3 to 6 in., ¼ in. thick	**5.00**	**5.00**	3.50	**5.05**	**5.00**	**6.50**
Tees, 3 in. and larger	**5.05**	**5.05**	3.55	**5.05**	**5.05**	**6.50**
Plates	**7.00**	**8.00**	4.10	**6.55**	**7.00**	**8.50**

New York extras on other shapes and sizes per lb. are as follows:

I-beams over 15 in.	$0.10
Angles over 6 in., on one or both legs	.10
Angles, 3 in., on one or both legs, less than ¼ in. thick	.70
Cutting to lengths, under 3 ft. to 2 ft. inclusive	.25
Cutting to lengths, under 2 ft. to 1 ft. inclusive	.50
Cutting to lengths, under 1 ft.	1.55

No charge is made for cutting to lengths 3 ft. and over.

WIRE ROPE—Discounts from list price on regular grades of bright and galvanized are as follows:

	New York June 4, 1917	New York 1 Yr. Ago	St. Louis	Chicago	San Francisco
Galvanized	**10-2½%**	25-2½%	**5-2½%**	**10-2½%**	5%
Bright	**20-2½%**	35-2½%	**15-2½%**	**20-2½%**	15%

EXPANDED METAL LATH—Prices per 100 yd. for painted are as follows:

Gage	Weight	New York Carload	New York Less Than Carload	Carload Chicago*	Carload St. Louis	Carload San Francisco	Carload Dallas
27	233	**$31.00**	**$31.18**	**$28.00**	**$30.00**	**$29.00**	**$26.50**
26	250	**32.03**	**32.11**	**29.00**	**32.00**	**30.25**	....
25	300	**33.13**	**33.22**	**30.00**	....	....	....
24	340	**34.25**	**34.36**	**31.00**	**35.00**	**33.00**	**30.50**
22	450	**36.44**	**36.58**	**33.00**	....	....	....

*About 10 additional for smaller quantities.

STEEL SHEET PILING—The following price is base per 100 lb. f.o.b. Pittsburgh, with a comparison of a month and a year ago:

June 4, 1917	One Month Ago	One Year Ago
$3.60@4.00	$3.60@4.00	$2.50

CAST-IRON PIPE—The following are prices per net ton for carload lots:

	New York					
	June 4, 1917	One Year Ago	Birmingham	Chicago	St. Louis	San Francisco
4 in.	$58.50	$34.00	$53.00	$58.50	$57.00	$66.00
6 in. and over	55.50	31.00	50.00	55.50	54.00	63.00

Gas pipe and 16-ft. lengths are $1 per ton extra.

OLD MATERIAL—The prices following are per gross ton paid to dealers and producers in New York. In Chicago and vicinity, the quotations are per net ton and cover delivery at the buyer's works, including freight transfer charges:

	New York	
	June 4, 1917	One Month Ago
Heavy melting steel scrap	$23.00@23.50	$21.50
No. 1 railroad wrought	40.50@41.50	38.00
Stove plate	17.50@18.00	16.50
No. 1 machinery cast	29.00@30.00	24.50
Machine shop turnings	12.50@13.00	11.50
Cast borings	13.50@14.00	13.50
Railroad malleable cast	24.00@24.50	22.50

	Chicago	
	June 4, 1917	One Month Ago
No. 1 railroad wrought	$36.00@37.00	$32.00
Stove plate	18.00@19.00	14.50
No. 1 machinery cast	26.00@27.00	21.50
Machine shop turnings	14.50@15.00	10.50
Cast borings	14.00@14.50	11.00
Railroad malleable cast	26.50@27.00	21.50

TRIANGLE MESH REINFORCEMENT—Price per 100 sq.ft. in carload lots:

PLAIN 4-IN. x 4-IN. MESH

Style Number	Sectional Area Square Inches per Foot Width	Pittsburgh	New York	Chicago	St. Louis	Dallas	San Francisco
032	0.032	$0.89	$0.92	$0.93	$0.94	$1.06	$1.20
049	0.049	1.13	1.18	1.18	1.20	1.34	1.55
068	0.068	1.42	1.47	1.49	1.50	1.68	1.97
093	0.093	1.82	1.89	1.91	1.92	2.17	2.47
126	0.126	2.31	2.39	2.42	2.44	2.74	3.15
153	0.153	2.75	2.86	2.88	2.91	3.27	3.75
180	0.180	3.16	3.27	3.31	3.34	3.76	...
245	0.245	4.17	4.33	4.36	4.41	4.96	6.12
287	0.287	4.82	5.00	5.04	5.10	5.72	...
336	0.336	5.59	5.80	5.85	5.92	6.66	...
395	0.395	6.48	6.72	6.78	6.86	7.73	...

PLAIN 4-IN. x 8-IN. MESH

036P	0.036	.69	.71	.72	.73	.82	...
053P	0.053	.97	1.01	1.02	1.03	1.16	...
072P	0.072	1.26	1.30	1.32	1.33	1.50	...
097P	0.097	1.62	1.68	1.70	1.71	1.93	...
049R	0.049	.97	1.01	1.02	1.03	1.15	1.97
067R	0.067	1.26	1.30	1.32	1.33	1.50	...
089R	0.089	1.62	1.68	1.70	1.71	1.93	...

Made in 16-, 20-, 24-, 28-, 32-, 36-, 40-, 44-, 48-, 52- and 56-in. width in rolls 150-, 200- and 300-ft. lengths.

Galvanized runs about 10% higher than plain.

FREIGHT RATES—On finished steel products in the Pittsburgh district, including plates, structural shapes, merchant steel, bars, pipe fittings, plain and galvanized wire nails, rivets, spikes, bolts, flat sheets (except planished), chains, etc., the following freight rates are effective in cents per 100 lb.:

Baltimore	15.4	Minneapolis	32.9
Boston	18.9	New Orleans	30.7
Buffalo	11.6	New York	16.9
Chicago	18.9	Pacific Coast (all rail)	75.0
Cincinnati	15.8	Philadelphia	15.9
Cleveland	10.5	St. Louis	23.6
Denver	68.6	St. Paul	32.9
Kansas City	43.6		

CEMENT, BRICK AND STONE

PAVING STONE—

		June 4, 1917	
New York	Manhattan	$2.50	sq.yd.
	Other boroughs	2.25	sq.yd.
Boston	5-in. granite	2.45	sq.yd.
Chicago	About 4x8x4 dressed	2.25	sq.yd.
	About 4x8x4 common	1.80	sq.yd.
St. Paul	Sandstone	1.65	sq.yd.
San Francisco	Basalt block 4x7x8	57.75	per M
Kansas City	Limestone	2.00	sq.yd.
Cincinnati	Granite	75.00	per M
New Orleans	Granite	60.00	per M

FLAGGING—

		June 4, 1917	
New York	Bronx	$0.17	sq.ft.
	Manhattan	.17	sq.ft.
	Queens, 5 ft. square	.18	sq.ft.
Chicago	18 in. wide	.75	lin.ft.

CURBING—Prices per linear foot are as follows:

		June 4, 1917
New York	5 x 16	$0.40
	5 x 20	.45
Chicago	6 x 18	.60
St. Louis	5 x 16 square edge	.72
	5 x 16 bull nose	.76
San Francisco	5 x 16	.75
	5 x 20	.85

SAND AND GRAVEL—Price for cargo or carload lots is as follows, per cu.yd.:

		Gravel				Sand	
		1½ In.		¾ In.			
	Paving	June 4, 1917	One Yr. Ago	June 4, 1917	One Yr. Ago	June 4, 1917	One Yr. Ago
New York	$1.25	$1.25	$0.90	$1.25	$1.00	$0.50	$0.50
Chicago	1.40	1.40	1.00	1.40	1.00	1.00	.85
St. Louis	...	1.08	.70	1.08	.70	1.08	.90
Dallas	...	1.50	...	1.50	...	1.10	...
San Francisco	...	1.00	.90	1.00	.90	1.00	1.00
Los Angeles	...	.85	...	.85	...	.35	...
New Orleans	...	1.95	...	1.95	...	1.30	...
Boston	...	1.50	...	1.55	...	.80	...
Kansas City	...	2.00	...	2.25	...	.60	...
Seattle	...	.75	...	.75	...	.75	...
Cincinnati*	...	.90*	...	.90*	...	.90*	...
St. Paul	...	1.00	...	1.10	...	.50	...

*Per ton.

Fine White Sand—St. Louis.

Pacific ..... $4.50 per ton Ottawa ..... $5.00 per ton

CRUSHED STONE—Price for cargo or carload lots is as follows, per cu.yd.:

	1½ In.		¾ In.	
	June 4, 1917	One Year Ago	June 4, 1917	One Year Ago
New York	$1.10	$0.85	$1.25	$0.95
Chicago	1.40	.95	1.40	.95
St. Louis	1.25	1.00	1.25	1.00
Dallas	1.42	...	...	...
San Francisco	1.00	1.25	1.00	1.25
Los Angeles	.95	....	1.00	....
Cincinnati	1.00	....	1.05	....
New Orleans	2.50	....	4.00	....
Boston	1.25	....	1.25	....
Kansas City	1.35	....	1.45	....
Seattle	1.50	....	1.50	....
St. Paul	.80	....	1.00	....

LIME—The following prices prevail from warehouse in cities named:

	Hydrated, per Ton		Eastern Lump, Per 300-Lb. Barrel	
	Finished	Common	Finished	Common
New York	$16.50	$13.25	$1.85	$1.65
St. Louis	11.25	10.00	....	....
Chicago	15.00	12.00	....	....
Dallas	20.00	15.00	....	....
San Francisco	16.50	15.00	....	....

PORTLAND CEMENT—These prices are for barrels in carload lots, including bags:

	June 4, 1917	One Month Ago	One Year Ago
New York	$2.40	$2.40	$1.75
Jersey City	2.16	2.16	1.66
Boston	2.67	2.20	1.92
Chicago	2.31	2.16	1.81
Pittsburgh	2.31	2.16	1.81
Cleveland	2.44	2.29	1.94
Detroit	2.40	2.25	1.90
Indianapolis	2.44	2.29	1.94
Toledo	2.44	2.29	1.94
Milwaukee	2.43	2.28	1.93
Minneapolis	2.58	2.48	2.08
Duluth	2.51	2.41	1.96
Peoria	2.43	2.28	1.80
Cedar Rapids	2.54	2.39	2.00
Davenport	2.49	2.34	1.90
St. Louis	2.45	2.30	1.85
San Francisco	2.60	2.60	2.30
New Orleans	2.70	2.47	....
Seattle	2.60	2.50	....
Dallas	2.15	....	....
Los Angeles	2.40	2.30	....
Cincinnati	2.52	2.29	....
Kansas City	2.29	2.24	....

ROSENDALE NATURAL CEMENT—Price to dealers for 500 bbl. or over, f.o.b., including bags:

New York $1.15

30c. allowed for bags.

BRICK—The price per 1000 in cargo or carload lots is as follows:

	Common			Paving	
	June 4, 1917	One Month Ago	One Year Ago	Brick	Block
New York	$10.25	$11.50	$8.25	$23.50	$33.00
Chicago	8.00	6.00	6.00	16.00	24.00
St. Louis, salmon	7.00	7.00	6.00	....	18.00
St. Louis, selected red	10.00	10.00	9.50	....	....
San Francisco	10.00	10.00	....	....	....
Dallas	8.10	8.10	....	22.00	22.50
Seattle	7.50	7.00	....	....	28.75
New Orleans	9.00	7.75	....	....	10.00
Kansas City	10.00	10.00	....	....	20.00
Los Angeles	7.50	7.50	....	....	28.00
Cincinnati	9.50	12.50	....	....	28.00
Boston	12.50	12.50	....	....	24.00
St. Paul	8.70	....	....	....	26.00

MISCELLANEOUS

RAILWAY TIES—For fair-size orders, the following prices per tie hold:

	Material	6 In. x 8 in. by 8 Ft.	7 In. x 9 in. by 8 Ft. 6 In.
New York	Yellow Pine	$1.06@1.11	$1.15@1.20
St. Louis	No. 1 White Oak	.65	.80
Chicago	White Oak	.82	.97
San Francisco	Green	.69	.95
San Francisco	Creosoted	1.15	1.55

MANILA ROPE—Price in coils per lb. in cities named, ¾ to 1½ in.:

Boston	$0.30	Los Angeles	$0.28½
Cincinnati	.29	Seattle	.28½
Kansas City	.28½	New York	.27½
New Orleans	.28	St. Paul	.30

CLAY DRAIN TILE—The following prices are per 1000 sq.ft.:

Size, In.	St. Louis	Chicago	San Francisco	Dallas
3	$18.40	$15.00	$24.50	$19.80
4	20.70	18.00	31.50	28.10
5	28.75	23.00	43.50	....
6	40.25	27.00	63.00	45.95
8	74.75	55.00	105.00	82.75

SEWER PIPE—The following prices are in cents per foot for carload lots:

Size, In.	New York June 4, 1917	New York One Year Ago	St. Louis	Chicago	San Francisco	Dallas
3	.111	.067	....	.075	.06	.096
4	.111	.067	....	.075	.08	.096
5	.1665	.108	....	.12	.10	.144
6	.1665	.108	.12	.12	.12	.144
8	.259	.148	.165	.175	.18	.2125
10	.3885	.216	.23	.2625	.27	.2975
12	.4995	.27	.33	.3375	.3375	.3825
15	.666	.364	.50	.45	....	.5525
18	.925	.516	.75	.625	.675	.7225
20	1.11	.607	.90	.75	.875	.85
22	1.48	.81	1.13	1.00	1.05	1.105
24	1.665	.875	1.28	1.125	1.25	1.275
27	2.47	1.58	1.30	....	....	....
30	2.736	1.93	1.70	....	....	....
33	3.60	2.50	2.25	....	....	....
36	4.10	2.80	2.50	....	....	....

Size, In.	Seattle	New Orleans	Kansas City	Cincinnati	Los Angeles	Boston	St. Paul
3	.075	.048	.100	.105	.055	.114	.084
5	.075	.075	.135	.1575	.090	.171	.126
8	.225	.1395	.180	.231	.160	.266	.175
12	.4125	.2635	.360	.459	.265	.513	.350
24	1.75	1.04	1.350	1.80	1.00	1.71	1.35
36	....	....	3.250	4.51	....	4.2025	2.74

HOLLOW TILE—Hollow building tile price per block in cents:

	New York	Chicago	St. Louis	San Francisco	Dallas
4x12x12	$0.0925	$0.079	$0.054	$0.07	$0.07
6x12x12	.1295	.118	.066	.95	.09
8x12x12	.15725	.137	.090	.12	.12
10x12x12	.185	.158	.150	.18	.15
12x12x12	.23125	.200	.180	.20	.18

	Seattle	Kansas City	Cincinnati	St. Paul	Los Angeles
4x12x12	.050	.050	.050	.052	.055
8x12x12	.090	.101¼	.100	.098	.100
12x12x12	.150	.142	.135	.130½	.165

EXPLOSIVES—Price per pound in small lots at cities named:

	Low Freezing 20%	Gelatin 40%	Gelatin 60%	Gelatin 80%
New York	....	$0.24½	$0.29½	....
Boston	....	....	.31¼	$0.35
Cincinnati	$0.18	.20½	.24¾	.37
Kansas City	.17	.23¼	.28¼	.34½
New Orleans	.18¼	....	.27¼	....
Los Angeles	.21	.27	.34	....
Seattle	.15½	.21¾	.26¾	.33
Chicago	.16¾	.23	.28	.34¼
St. Paul*	.17	.23¼	.28¼	.34½
St. Louis	.14¼	.20½	.25½	.31¾

*In ton lots.

ROAD OILS—Following are prices in tank cars 8000 gal. minimum f.o.b. place named:

New York, 40-50% asphalt	6⅛c. gal.
New York, 60-70% asphalt	6¼c. gal.
New York, dust layer, 30%	6½c. gal.
New York, binder	8c. gal.
St. Louis, asphalt	5c. gal.
Chicago, 15-20% asphalt	6½c. gal.
Dallas, 40-50% asphalt	5½c. gal.
Dallas, 60-70% asphalt	7c. gal.
San Francisco, 75-95% asphalt	$1.83 bbl.

Barrel 42 bulk gal.

WOOD BLOCK PAVING—

	Size of Block	Treatment	Per Sq.Yd.
New York	3½	16	$2.00
New York	4	16	2.25
Chicago	4	16	1.85
Chicago	City specifications		2.10
St. Louis	3½	16	1.60
Seattle	4	16	1.35
Boston	4	20	1.92
Cincinnati	4	16	1.65
Kansas City	4	16	1.85
St. Paul	Minneapolis specifications		1.85

LINSEED OIL—These prices are per gallon:

	New York June 4, 1917	New York One Year Ago	Cleveland June 4, 1917	Cleveland One Year Ago	Chicago June 4, 1917	Chicago One Year Ago
Raw in barrels	$1.31	$0.73	$1.32	$0.75	$1.32	$0.78
5-gal. cans	1.41	.83	1.42	.85	1.37	.88

WHITE AND RED LEAD in 500-lb. lots sell as follows in cents per pound:

	Red June 4, 1917 Dry	Red June 4, 1917 In Oil	Red 1 Year Ago Dry	Red 1 Year Ago In Oil	White June 4, 1917 Dry and In Oil	White 1 Yr. Ago Dry and In Oil
100-lb. keg	12.25	12.50	10.50	11.00	12.00	10.50
25- and 50-lb. kegs	12.50	12.75	10.75	11.25	12.25	10.75
12½-lb. keg	12.75	13.00	11.00	11.50	12.50	11.00
1- to 5-lb. cans	14.25	14.50	12.50	12.50	13.50	12.50

ROOFING MATERIALS—Prices per ton f.o.b. New York or Chicago:

	Carload Lots	Less Than Carload Lots
Tar felt (14 lb. per square of 100 sq.ft.)	$59.00	$60.00
Tar pitch (in 400-lb. bbl.)	14.00	16.00
Asphalt pitch (in barrels)	29.00	30.00
Asphalt felt	60.00	61.00

PREPARED ROOFINGS—Standard grade rubbered surface, complete with nails and cement, costs per square as follows in New York and Chicago:

	1-Ply c.l.	1-Ply l.c.l.	2-Ply c.l.	2-Ply l.c.l.	3-Ply c.l.	3-Ply l.c.l.
No. 1 grade	$1.15	$1.30	$1.45	$1.60	$1.75	$1.90
No. 2 grade	1.00	1.15	1.25	1.40	1.50	1.65

Asbestos asphalt-saturated felt (14 lb. per square) costs $5.35 per 100 lb.

Slate-surfaced roofing (red and green) in rolls of 108 sq.ft. costs $1.85 per roll in carload lots and $2.10 for smaller quantities.

Shingles, red and green slate finish, cost $4.75 per square in carloads, $5 in smaller quanties, in Philadelphia.

LUMBER—Price per M in carload lots:
Square Edge and Sound Green
Timbers 5 x 5

	Southern Pine New York 20 Ft. and Under	Southern Pine New York 22 Ft. and Under 24 Ft.	Southern Pine Chicago 20 Ft. and Under	Southern Pine Chicago 22 Ft. and Under 24 Ft.	Yellow Pine St. Louis 20 Ft. and Under	Yellow Pine St. Louis 22 Ft. and Under 24 Ft.
3x 4 to 8x 8	$35.75	$36.75	$33.75	$34.75	$21.00	$22.00
3x10 to 10x10	36.75	37.75	34.75	35.75	22.00	24.00
3x12 to 12x12	39.75	40.75	37.75	38.75	24.50	25.50
3x14 to 14x14	41.75	42.75	39.75	40.75	25.00	26.00
3x16 to 16x16	44.75	45.75	42.75	43.75	37.00	28.00
3x18 to 18x18	51.75	52.75	49.75	50.75	29.00	30.00
4x20 to 20x20	56.75	57.75	54.75	55.75	33.00	34.00

Over 32 ft.—Add $1 for each additional 2 ft. in length up to 40 ft. for sixes 12 x 12 and under; for sizes over 12 x 12 add $2. For merchantable add $2 to sizes 10 x 10 and under. For prime add $2 to the price of merchantable for all sizes.

Prices from Lumberman's Bureau.

Yellow Pine—Dallas. Price per M:

	No. 1 Common		
2x 4—22 ft. to 24 ft.	$37.50	4x4, 4x6, 6x6	$37.50
2x 6—22 ft. to 24 ft.	37.50	3x8, 6x8, 8x8	37.50
2x 8—22 ft. to 24 ft.	37.50	3x10, 8x10, 10x10	40.00
2x10—22 ft. to 24 ft.	37.50	3x12, 12x12	40.00
2x12—22 ft. to 24 ft.	37.50		

Rough Douglas Fir, No. 1 Common—More than carload lots in San Francisco:

Size in Inches	15 Ft. and Under	16 to 24 Ft.	25 to 32 Ft.
3 and 4x4	$20.00	$21.50	$22.50
3 and 4x6 and 8	20.00	20.50	21.50
6x6 to 8x8	20.50	21.50	21.50
3 and 4x10	20.00	21.50	22.50
6 and 8x10	21.00	22.00	22.00
10x10	21.00	21.00	23.00
3 and 4x12	20.00	21.50	22.50
6 and 8x12	21.50	22.50	22.50
10 and 12x12	21.00	23.00	23.00
3 and 4x14	21.00	23.00	24.00
6 and 8x14	22.50	23.50	23.50
7 and 9x14	23.50	24.50	24.50
10 and 12x14	22.00	22.00	24.50

	1-In. Rough, 10 In. x 16 Ft. and Under Y.P.	1-In. Rough, 10 In. x 16 Ft. and Under Fir	1-In. Rough, 10 In. x 16 Ft. and Under Hemlock	2 In. T. and G. 10 In x 16 Ft. Y.P.	2 In. T. and G. 10 In x 16 Ft. Fir
Boston	$72.00	....	....	$41.00	....
Cincinnati	25.00	....	....	34.00	....
Kansas City	43.25	$44.50	$43.50	18.00	....
Seattle	18.50	18.50	18.50	18.50	$18.50
Los Angeles	....	30.00*	30.00*	....	....
New Orleans	36.00	....	....	38.00	....
Chicago	32.00	....	....	30.00	....
St. Paul	60.00	54.00	33.50	65.00	57.00

	8 x 8-In. x 20 Ft. and Under Y.P.	8 x 8-In. x 20 Ft. and Under Fir	8 x 8-In. x 20 Ft. and Under Hemlock	8 x 8-In. x 20 Ft. and Under Spruce	12 x 12-In. 20 Ft and Under Y.P.	12 x 12-In. 20 Ft and Under Fir
Boston	$46.00	....	....	$37.00	$53.00	....
Cincinnati	30.00	....	....	....	24.00	....
Kansas City	38.00	$35.00	$35.00	....	42.50	35.00
Seattle	18.50	18.50	18.50	18.50	18.50	18.50
Los Angeles	....	30.00	....	....	....	30.00
New Orleans	40.00	....	....	....	40.00	....
Chicago	30.00	35.00	27.00	....	32.00	35.00
St. Paul	....	38.00	31.00	....	....	38.00

*Base.

ASPHALTUM—Price per ton in packages and bulk in carload lots:

	Brand	Package	Bulk
New York	Texaco	$25.00	....
New York	Mexican	19.00	$14.00
Chicago	Mexican	24.00	20.00
St. Louis	Texaco or Mexican	22.50	19.50
San Francisco	California	14.50	12.00
Dallas	Texaco and Mexican	19.00	....
Seattle	....	....	16.00

POLES—Price of Western red cedar poles is as follows:

	New York June 4, 1917	New York One Year Ago	Chicago	St. Louis	Denver
6 in. by 30 ft.	$5.24	$4.77	$4.59	$4.59	$3.97
7 in. by 30 ft.	6.90	5.90	6.10	6.10	5.30
7 in. by 35 ft.	9.70	7.85	8.60	8.60	7.55
8 in. by 35 ft.	11.20	9.75	9.90	9.90	8.65
7 in. by 40 ft.	11.35	9.95	10.00	10.00	8.75
*8 in. by 45 ft.	15.70	14.45	13.70	13.70	11.80
*8 in. by 50 ft.	18.35	16.85	15.95	15.95	13.65

*10c. higher freight rates on account of double loads.

OLD METALS—The following are the dealers' purchasing prices in cents per pound:

	New York June 4, 1917	New York One Year Ago	Cleveland June 4, 1917	Cleveland One Year Ago
Copper, heavy and crucible	27.50	24.50	29.50	25.00
Copper, heavy and wire	26.50	24.00	28.50	24.00
Copper, light and bottoms	25.00	21.00	25.25	20.00
Lead, heavy	9.00	6.00	9.00	6.00
Lead, tea	8.50	5.50	7.25	5.00
Brass, heavy	17.75	14.25	18.50	19.00
Brass, light	13.75	11.50	14.50	12.50
No. 1 yellow rod brass turnings	18.00	15.25	18.50	15.25
Zinc	7.00	11.00	6.75	13.00

Proposals

For Proposals Advertised See Pages 71 to 77 Inclusive

WATER-WORKS

Bids Close		See Eng. News-Record
June 11.	Unadilla, Neb.	June 7
June 12.	Kendallville, Ind. Adv. May 24 and 31.	June 7
June 15.	Niles, Mich.	June 7
June 18.	Wadsworth, O.	June 7
June 23.	Wickenburg, Ariz.	June 7
July 1.	Leeds, N. D.	June 7
July 1.	Fessenden, N. D.	June 7

SEWERS

June 10.	Newark, N. J.	June 7
June 11.	Los Angeles, Cal.	May 31
June 11.	Mason City, Ill.	June 7
June 12.	Newark, N. J.	May 17
June 12.	Newark, N. J.	June 7
June 13.	Lombard, Ill.	June 7
June 15.	New York, N. Y.	June 7
June 19.	Newark, N. J.	May 24
June 19.	Newark, N. J.	May 31
June 19.	Akron, O.	June 7
June 19.	Salt Lake City, Utah	June 7
June 28.	Chicago, Ill. Adv. May 24.	May 24

STRUCTURAL STEEL WORK

June 9	Granville, Pa.	June 7
June 9.	Amery, Wis.	June 7
July 9.	Dalton, Ga.	June 7
June 11.	Sayre, Ala.	June 7
June 14.	Fargo, N. D.	June 7
June 14	Elizabeth, N. J.	June 7
June 20.	Salem, Ore. Adv. May 31 and June 7.	May 31
June 20	Reily, O.	June 17
June 29	Morrilton, Ark. Adv. June 7.	June 7
July 15	Orange, Tex.	June 7

REINFORCED CONCRETE

June 9	Middlebury, Pa.	May 31
June 11.	New Philadelphia, O.	May 24
June 11	Sunbury, Pa.	May 31
June 11.	Greenburg, Pa.	June 7
June 11.	Burlington, Ia.	June 7
June 11.	Tanseley, Ont.	June 7
June 11	Harrisonville, N. J.	June 7
June 12.	Eldora, Ia.	June 7
June 12.	Owatonna, Minn.	June 7
June 15.	Sibley, Ia. Adv. June 7.	June 7
June 18.	Donnoha, N. C.	June 7
June 18.	Elizabeth, N. J.	June 7
June 19.	Johnstown, Pa. Adv. June 7.	June 7
June 19.	Luverne, Minn.	May 31
June 20.	Canton, O.	May 31
June 21.	Columbus, O.	May 31
June 23.	Schoharie, N. Y.	June 7
June 25.	Clifton, Ariz.	June 7
June 26.	Monroe, Mich.	June 7

STREETS AND ROADS

June 9.	Oklahoma, Okla.	June 7
June 10.	Seattle, Wash.	May 24
June 11.	Wapato, Wash.	June 7
June 11.	Fayetteville, W. Va.	May 17
June 11.	Seattle, Wash.	May 31
June 11.	Olympia, Wash.	May 31
June 11.	Camden, N. J.	May 31
June 11.	New Philadelphia, O.	June 7
June 11.	Mason City, Ia.	June 7
June 12.	Yuma, Ariz.	June 7
June 12.	Red Bluff, Cal.	June 7
June 12.	Harrisburg, Pa. Adv. May 17 to 31.	May 17
June 12.	Thief River Falls, Minn.	May 31
June 12.	Florence, Ariz.	May 31
June 12.	Troy, Ala.	May 31
June 12.	Bethany, Mo.	June 7
June 12.	Baltimore, Md. Adv. June 7.	June 7
June 13.	Newton, N. J. Adv. June 7.	June 7
June 13.	Springfield, O.	June 7
June 14.	Jersey City, N. J.	June 7
June 14.	Fairmont, W. Va.	May 24
June 14.	Dayton, O.	May 31
June 14.	Ohio	June 7
June 15.	Wynne, Ark. Adv. May 31 and June 7.	May 31
June 15.	Cleveland, Tenn.	May 31
June 15.	Roselle Park, N. J.	June 7
June 15.	New York, N. Y.	June 7
June 16.	Kingwood, W. Va.	June 7
June 18.	Ft. Ransom, N. D.	May 31
June 18.	New Brunswick, N. J.	May 31
June 18.	Camden, N. J.	June 7
June 19.	Belvidere, N. J.	May 31
June 19.	Salt Lake City, Utah	June 7
June 19.	Wildwood, N. J.	June 7
June 19.	Clinton, N. C.	June 7
June 20.	Belvidere, N. J. Adv. June 7.	June 7
June 20.	New Junction, O. Adv. June 7.	June 7
June 20.	Pine Bluff, Ark. Adv. June 7.	June 7
July 1.	Pine City, Minn.	May 31
July 2.	Hamlin, W. Va.	June 7
Aug. 13.	Lewiston, Idaho	May 24

EXCAVATION AND DREDGING

June 11.	St. John, N. B.	June 7
June 11.	Greenville, Miss.	May 31
June 12.	Manteca, Cal.	June 7
June 12.	Fresno, Cal.	May 24
June 12.	Crookston, Minn.	May 31
June 12.	Rochester, Ind.	June 7
June 13.	Bloomfield, Mo.	May 31
June 14.	Lonoke, Ark. Adv. May 17.	May 17
June 14.	Rockport, Mo.	June 7
June 15.	Algona, Ia.	May 31
June 15.	Topeka, Kan.	June 7
June 18.	Petersburg, Ind.	May 24
June 18.	Opelousas, Ia.	May 31
June 18.	Beardstown, Ill. Adv. June 7.	June 7
June 22.	Chaska, Minn.	May 31
June 26.	Albany, N. Y. Adv. May 31 and June 7.	May 31

BUILDINGS

June 8.	Newark, N. J.	June 7
June 9.	Jacksonville, Fla.	May 17
June 9.	Randolph, Ia.	May 24
June 9.	Greenville, O.	May 31
June 9.	Council Bluffs, Ia.	June 7
June 10.	Isabella, Tenn.	May 31
June 11.	Cleveland, O.	May 24
June 11.	Urbana, Ill. Adv. May 31.	May 31
June 11.	Monroe, Mich.	June 7
June 12.	New York, N. Y.	May 31
June 12.	Vandergrift, Pa.	May 24
June 12.	Centerville, Ia.	May 31
June 12.	Franklin, Neb.	June 7
June 12.	Deerwood, Minn.	June 7
June 12.	Beacon, N. Y.	June 7
June 13.	Eugene, Ore.	June 7
June 13.	Weehawken, N. J.	June 7
June 14.	Wessington Springs, S. D.	June 7
June 14.	Bayonne, N. J.	June 7
June 14.	Portland, Me.	June 7
June 14.	Waterbury, Conn.	June 7
June 15.	Baltimore, Md.	June 7
June 15.	Lakota, N. S.	May 24
June 15.	Miami, Okla.	May 31
June 18.	Austin, Tex.	May 31
June 18.	Epworth, Ia.	May 31
June 19.	Clearwater, Fla.	May 31
June 19.	New York, N. Y. Adv. June 7.	June 7
June 20.	Wolford, N. D.	June 7
June 20.	Martinsburg, Ia.	June 7
June 22.	Lebanon, O.	May 31
June 25.	Ft. Madison, Ia.	June 7
June 26.	Albany, N. Y.	June 7
July 1.	Riverton, Minn.	June 7

FEDERAL GOVERNMENT WORK

June 11.	Bridgeport, Conn.	May 17
June 11.	New York, N. Y. Adv. May 17 to June 7.	May 17
June 11.	Washington, D. C.	May 24
June 11.	Ft. Mifflin, Pa.	May 31
June 11.	Philadelphia, Pa.	May 31
June 11.	Boston, Mass.	June 7
June 11.	Pensacola, Fla.	June 7
June 11.	San Antonio, Tex.	June 7
June 12.	State College, Pa. Adv. May 17 and 24.	May 17
June 14.	Cherryvale, Kan.	May 17
June 14.	Three Rivers, Cal.	May 17
June 14.	Ft. Bliss, Tex. Adv. May 24 to June 7.	May 24
June 14.	Washington, D. C. Adv. May 24 to June 7.	May 31
June 14.	New York N. Y.	June 7
June 15.	Memphis, Tenn. Adv. May 24 to June 7.	May 24
June 15.	Chapel Hill, N. C.	June 7
June 16.	Montgomery, Ala. Adv. May 24 to June 7.	May 17
June 16.	San Francisco, Cal.	June 7
June 16.	Wash Woods, N. C. Adv. June 7.	June 7
June 18.	Akron, O.	May 17
June 18.	Pensacola, Fla.	May 31
June 19.	Montevideo, Minn.	May 17
June 19.	Aledo, Ill. Adv. May 24 and 31.	May 17
June 20.	Beaufort, S. C. Adv. May 17.	May 17
June 20.	Ft. Royal, Va.	May 31
June 20.	Galveston, Tex. Adv. May 24 to June 7.	May 31
June 21.	Cambridge, Md.	May 17
June 22.	Butler, Mo.	June 7
June 22.	Fordyce, Ark. Adv. May 17 and 24.	May 24
June 23.	Raton, N. M.	May 17
June 23.	New York, N. Y. Adv. May 24 to June 7.	May 31
June 25.	Washington, D. C.	May 31
June 25.	New Orleans, La. Adv. May 31 to June 7.	May 31
June 25.	Bremerton, Wash.	June 7
June 26.	Monesson, Pa.	May 31
June 27.	Vineland, N. J.	June 7
June 28.	New Orleans, La. Adv. May 31 and June 7.	May 31
June 28.	Detroit, Mich. Adv. May 31.	May 31
June 28.	Prescott, Ark.	June 7
July 12.	Hoopeston, Ill.	June 7

MISCELLANEOUS

June 11.	Pipes, etc. New York, N. Y.	June 7
June 11.	Incinerator Plant. New York, N. Y.	June 7
June 12.	Cement—Newton, N. J.	June 7
June 12.	Docks—Buffalo, N. Y.	June 7
June 14.	Timber Groynes, Brooklyn-N. Y.	June 7
June 25.	Harbor Improvements — Newport, Ore.	June 7

Where name of official is not given, inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATER-WORKS

Proposed Work

N. Y., Attica—Village receives bids in summer installing water system involving new pumping station, main, reservoir and filter plant. W. E. Hopkins, clk. C. C. Hopkins, 346 Cutler Bldg., Rochester, engr.

N. J., Midvale—See "Newark, N. J."

N. J., Newark—Bd. Wks. and T. L. Raymond, mayor, will have plans prepared for development of Wanaque watershed. About $8,060,000. City also plans to acquire 2000 acres land near Midvale, Passaic Co., for huge reservoir, 6 mi. long and 1½ mi. wide with dam, 1725 ft. long.

Pa., Lebanon—City negotiating with Bethlehem Steel Co., which serves city with water on small scale, to increase supply to 5,000,000 gal. daily additional. E. H. Shroff, supt.

Ala., Lineville—City retained J. B. McCrary Co., engrs., 3rd Natl. Bank Bldg., Atlanta, to prepare plans waterworks. About $25,000.

Tenn., Paris—City soon lets contract installing filtration plant. W. J. Holman, engr.

Ky., Louisville—Louisville Water Co. will construct at its own expense full water facilities to proposed army training camp to be established at Audubon Park on Preston Street Rd. south of city. Plans include 12,000-ft. pipe, connecting 24-in. line at end of Shelby St., with Audubon Park and running along Preston Street Rd. J. B. Wilson, supt.

O., Chardon—Village to let contract about July 10 installing water-works system. Noted May 31.

O., East Youngstown—(Warrensville P. O.)—Town Council plans to issue $45,000 bonds to complete pumping station.

O., Ironton—City plans pumping station and waterworks. About $375,000. H. M. Paul, clk.

Mich., Alma—See "Sewers."

Mich., Grayling—Bd. Supervs. authorized purchase of 1½-hp. gasoline engine and pump to replace present system of water supply at Crawford Co. Infirmary.

Wis., Portage—City receives bids in summer installing filter plant, 1,500,000-gal. capacity. F. Gross, clk.

Kan., Altoona—City election June 22 to vote on $25,000 bonds to improve water system. W. B. Rollins & Co., 209 Railway Exchange Bldg., Kansas City, Mo., engrs.

Neb., Omaha—Metropolitan Water Dist., 39th and Lafayette Sts., plans to build pumping station. About $30,000.

Neb., Rogers—Town plans to install water system including tower.

Water-Works (Continued)

S. D., Bonesteel—City having plans prepared by Bruce & Standeven, engrs., 430 Bee Bldg., Omaha, for water and electric-light plants.

Mont., Livingston—(Official)—Burns & McDonnell, engrs., 400 Interstate Bldg., Kansas City, Mo., completed plans waterworks plant, taking water from Yellowstone River. Plans include 3,000,000-gal. filtration system, new power plant, settling basins, etc. Noted May 10.

Okla., Kingfisher—City plans to improve water system. A. E. Finuf, supt.

Okla., Red Fork—(Official)—City receiving bids in June installing water-works system; plans include gas engine, pump, motor, 2- and 4-in. mains, reservoir, etc. About $20,000. Noted May 17.

Colo., Greeley—See "Structural Steel."

Colo., Pueblo—City soon receives bids laying 2- to 12-in. water mains in Mesa Paving Dist. No. 1. D. P. Porter, supt.

Colo., Sterling—City selected site for proposed water pumping plant. G. C. Forgale, supt.

Colo., Wiley—Town Bd. considering plans new well and storage reservoir.

Nev., Reno—(Official)—Burns & McDonnell, engrs., 400 Interstate Bldg., Kansas City, Mo., completed plans improvements to waterworks. About $550,000. S. A. Campbell, mgr. Noted Apr. 5.

Bids Desired

N. Y., New York—(Official)—Until June 19 by C. Strauss, pres. bd. water supply, Municipal Bldg., Contract No. 180, dwelling houses and outhouses along line of Catskill aqueduct between Ashokan and Hill View reservoirs; advertised in this issue.

Va., Lynchburg—(Official)—Until June 25 by City for building filtration plant and appurtenances; advertised in this issue.

O., Bradford—(Official)—Until June 18 by L. E. Harvey, clk. bd. pub. affairs, for improving water-works; advertised in this issue.

Wis., Amery—See "Structural Steel."

Neb., Unadilla—Until June 11 by village for waterworks system well, 8 in. diam., 40 ft. deep, 1 centrifugal pump, 1 10 hp. oil engine, 1 elevated tank, 25,000-gal. capacity, 6660 ft. 4-in. c. i. mains, 670 ft. 6-in. iron mains, 14 fire hydrants. I. F. Lowe, clk. Grant & Fulton, Bankers Life Bldg., Lincoln, engrs., $12,200. Noted Apr. 26.

N. D., Fessenden—Until July 1 by city installing waterworks and sewers, including 100,000-gal. septic tank. About $55,000. T. R. Arnold, Leland Hotel, Minot, engr.

N. D., Leeds—Until July 1 by City installing waterworks and sewers. About $35,000. T. R. Arnold, Leland Hotel, Minot, engr.

Ariz., Wickenburg—Until June 23 by city installing electric light plant and extending and improving water system. H. P. Ward, clk. Noted Apr. 19.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**N. Y., Bedford Hills**—Montefier Home let contract installing pumping plant and water supply to J. E. Bunting & Co., 131 Maple Ave., Flushing, L. I.

N. Y., New York—(Official)—Bd. Water Supply, Municipal Bldg., received low bid making borings at Woodstock and Glenford Dikes of Ashokan Reservoir, Hurley, Ulster Co., from Sprague & Henwood, Inc., 120 B'way, $72,250. Noted May 10.

★**S. C., Bishopville**—(Official)—City let contract water-works, mains and sewer lines, involving 4032 lin.ft. 4-in. c.-i. pipe, 2904 lin.ft. 6-in. and 204 lin.ft. 10-in. c.-i. pipe, also 43,215 lin.ft. T. C. pipe sewer to Sullivan, Long & Hagerty, Bessemer, Ala., $43,073.

★**O., Ironton**—City let contract installing water main from pumping station to reservoir to Mountain, Scherrer & Grimes.

★**O., Toledo**—City let contract addition to Bway high-service pumping station to Spear, Moylan & Lasley, Toledo, $86,000. Noted May 24.

★**Ill., Des Plaines**—Village let contract installing 11,500 lin.ft. c. i. water mains, valves, hydrants, etc. to M. McElligott, 1408 Main St., Evanston, $18,000.

★**Wis., Osceola**—City let contract installing water and sewer mains to W. C. Fraser, 707 Germania Life Bldg., St. Paul, $17,500 each; pump house and suction well to A. Lenhart, Osceola, $2212.

★**Kan., Caldwell**—(Official)—Town let contracts improving water and light plant as follows: P-K Engrs., Syndicate Trust Bldg., St. Louis, Mo., 2 275-hp. Ames Unaflow Engines and 1 200-kv.-a general electric generator with condensers, $19,330; Westinghouse Electric & Mfg. Co., 165 Bway., New York City, switchboard, $2940; Page Boiler Co., 815 Larrabee St., Chicago, 2 150-hp. water tube boilers, $9550; Thermal Efficiency Co., 717 Finance Bldg., Kansas City, Mo., 400-hp. Cochrane heater, $1216; Natl. Cast Iron Pipe Co., Kansas City, Mo., 4-in. pipe at $61.95 per ton; 6-in. and larger $58.95 per ton for Class "B" $59.85 per ton for Class "A." Noted Apr. 19.

★**Kan., Hoisington**—City let contract installing waterworks to Connor Constr. Co., 4008 Montgall, Kansas City, $80,000.

★**Okla., Oklahoma City**—City let contract improving water-works to Holmboe Constr. Co., 315 Majestic Bldg., $59,900. Noted May 3.

★**Ore., Hermiston**—City let contract installing dam and reservoir to Newport Constr. Co., Newport.

★**Cal., San Dimas**—See "Reinforced Concrete."

SEWERS

Proposed Work

Mass., Fitchburg—Council plans to install sewers portions Hobson and Canton Sts. and Oak Hill Rd. W. A. Davison, clk.

R. I., Woonsocket—City plans to install sewers portions Paradis and Harris Aves., Kindergarten and Varry Sts. and Meadow Rd. F. H. Mills, city engr.

Pa., Ambridge—Boro approved ordinance authorizing extension and construction of sanitary sewerage system. J. D. Leaf, engr.

S. C., Spartanburg—City election June 12 to vote on $40,000 bonds to extend sewerage system. R. Tull, city engr.

O., Bowling Green—City passed resolution to construct lateral sanitary sewer from Outlet 81, through Case and Merry Aves. to Thruston Ditch; also lateral sewer from Outlet No. 75 to Case Ave. S. W. Bowman, mayor.

O., Cleveland—Ford-McCaslin Co., Williamson Bldg., plans storm and sanitary sewers and private sewage disposal plant to serve proposed community on Mayfield Rd. until South Euclid Twp. shall incorporate and provide general sewer facilities.

O., Coshocton—City plans to install sanitary sewer in portion Hay Ave. A. Fisher, city engr.

O., Newark—City plans to install sewers in portions Buena Vista and Florence Sts. E. H. Wells, city engr.

O., Steubensville—City passed ordinance for sewers in South Bend Blvd. J. N. Leach, city engr.

O., Urbana—City plans to install storm sewer in portion West Water St. E. F. Sweetman, city engr.

O., Warren—City plans to install sanitary sewer in portion Iowa St. C. Lawrence, city engr.

Ind., South Bend—Bd. Pub. Wks. plans to install local sewer in portions Clover St. F. J. Anderson, city engr.

Mich., Alma—City plans to spend $400,000 for sewer and water extensions and street and sidewalk improvements.

Mich., Menominee—T. R. Hasley, city engr., preparing plans for new sewerage system.

Mich., Pontiac—City retained A. Barnett, engr., to prepare plans and submit estimate of cost of installing sanitary sewer portion Chamberlain St.

Ia., Davenport—City plans to improve sewers in Rock Island, Valley and Oak Sts. About $100,000. A. R. Boudinot, city engr.

Ia., Seymour—City retained M. G. Hall, engr., Centerville, to prepare plans for sewerage system.

Ia., Sioux City—City plans to install sanitary sewers portions South St. Marys St. and 3rd Ave. T. H. Johnson, city engr.

Ia., Sioux City—City plans to install storm sewers, portions Nebraska and Pearl Sts. T. H. Johnson, city engr.

Minn., Duluth—City plans to install sanitary sewers portions 8th and Winona Sts., Superior St. alley; storm sewers in portions Minneapolis, Wadena and Woodland Aves. L. Ayers, city engr.

Kan., Manhattan—City plans to install storm sewer in Bertrand St. A. Rhodes, city engr.

S. D., Sioux Falls—City plans to install lateral sewers in portions Nesmith, 6th, 19th and 3rd Sts. S. B. Howe, city engr.

Wyo., Cheyenne—City will hold election within 60 days to vote on $60,000 bonds to install storm sewers. E. W. Glakeke, city engr.

Mont., Butte—City plans sanitary sewer in Special Improv. Dist. No. 208. J. J. Armstrong, city engr.

Mo., Cape Girardeau—City preparing plans installing West End sewer. About $300,000. A. Stiver, city engr. W. W. Horner, 5842 Julian Ave., St. Louis, cons. engr.

Mo., St. Joseph—City election June 26 to vote on $350,000 bonds to improve sewers C. P. Hoff, city engr. Noted May 24.

Tex., McAllen—City voted $30,000 bonds to install sewerage system. Noted Apr. 19.

Okla., Commerce—City election soon to vote on $35,000 bonds to install sewerage system, involving $34,200 ft. 8- to 15-in. pipe. Noted May 3.

Okla., Jennings—City plans to issue bonds to install sanitary sewerage system.

Colo., Ft. Collins—City Council considering plans for 2 trunk line sewers. F. P. Gaeder, city engr.

Ariz., Douglas—City plans to extend sewerage system and construct septic tank in eastern section of city.

Ariz., Flagstaff—(Official)—A. H. Johnson, town clk., soon receives bids extending sewerage system. About $60,000. C. M. Brooks, city engr. Noted May 31.

Wash., Seattle—A. H. Dimock, city engr., submitted report to Bd. Pub. Wks. estimating cost installing water mains in Michigan St., involving 7000 lin.ft. 6-in. wood pipe, 1300 ft. 2-in. galvanized iron pipe, 19 6-in. hydrants, at $11,000.

Ore., Ashland—Council plans to install sewers in Main and Lincoln Sts., et al. About $12,000.

Ore., Portland—City soon receives bids installing sewers in 50th St. and 31st Ave. Dist. P. Dater, city engr.

Cal., Fresno—City lets contract about July 2, installing sewerage system in Arlington Heights, involving 6- to 12-in. vitr. clay pipe, 52 manholes, etc. About $30,000. C. C. Van Valkenburg, city engr. Noted Apr. 12.

Cal., Los Angeles—City lets contract in July installing Ocean Beach sewerage system. About $50,000. A. H. Wright, clk. Olmsted & Gillelen, 1112 Hollingsworth Bldg., engrs.

Cal., Los Angeles—City plans to install sewers, portions Crocker and 69th Sts. H. Hamlin, city engr.

Ont., Magog—City voted in favor of by-law for $65,000; install sewers, pave streets and construct sidewalks. A. Touriguy, clk.

BIDS DESIRED

O., New Junction—See "Streets and Roads."

N. Y., New York—Until June 15 by M. M. Marks, boro pres., alteration to receiving basins with inlets on portion Jefferson and Broome Sts.

N. Y., Port Chester—(Official)—Until June 12 by Bd. Trustees for sewage pumping machinery; advertised in this issue.

N. J., Newark—Until July 10 by Passaic Valley Sewerage Comn., 31 Clinton St., Newark, for foundations and connections of proposed pumping station, Scott Ave., between Mercer and Lester Sts., Wallington.

N. J., Newark—(Official)—Until June 12 by Passaic Valley Sewerage Comrs. for building northerly portion of section 27, Kearny Harrison Newark Branch Intercepting Sewer. J. H. Quigg, clk.

O., Akron—Until June 19 by M. Rebel, clk. bd. comrs. Summit Co., storm sewer in Bath Twp.

Ill., Lombard—Until June 13 by Bd. Local Improv. installing sewers and sewage treatment plant. S. R. Smith, pres. W. S. Shield, 1201 Hartford Bldg., Chicago, engr. Noted Apr. 19.

Ill., Mason City—Until June 11 by City Clk. for outlet and septic tanks for sewerage and drainage system. About $20,000. W. G. Burnsmier, mayor.

N. D., Fessenden—See "Waterworks."

N. D., Leeds—See "Waterworks."

Utah, Salt Lake City—Until June 19th by city installing sewers, Sewer Extension No. 371, 4th and Columbus St. S. Q. Cannon, city engr.

Ariz., Yuma—See "Streets and Roads."

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**N. Y., Amsterdam**—City let contract installing surface water sewers, portions Grove St. to DeRosa & Romano.

N. Y., New York—(Official)—Bd. Water Supply, Municipal Bldg., received low bids, furnishing and delivering cement for use at Woodstock and Glenford dikes of Ashokan reservoir, to be delivered to West Hurley station of Ulster and Delaware R.R., from Alsens American Portland Cement

Sewers (Continued)

Works, 45 Bway., $34,500; Atlas Portland Cement Co., 30 Broad St., $35,550; Vulcanite Portland Cement Co., 8 West 40th St., $35,775. Noted May 10.

★**Pa., Phoenixville**—Boro let contract sewer on portion Gay St. to F. Cannon, Allentown. Noted Apr. 19.

★**N. C., Durham**—Erwin Cotton Co. let contract installing sewage disposal plant and system for 1000 millhouses to Cement Products Co., Wilmington, $10,000.

★**S. C., Bishopville**—See "Waterworks."

★**Ga., Tennille**—City let contract sewage disposal tank in connection with sewerage system, to R. T. Aderhold, College Park.

★**O., Cincinnati**—City let contract installing sewers, various streets to Kirchner Constr. Co., 211 West 9th St. Noted May 24.

★**O., Marietta**—See "Reinforced Concrete."

★**O., Toledo**—City let contract building 8 sewers to P. H. Watters and T. J. Kelly, $5820 and $10,052 respectively.

★**Ind., Anderson**—City let contract installing East Lynn St. Dist. sewer to Minnick Constr. Co., Newcastle, $15,990; 6th and Sycamore St. sewers to L. Burke, $4171.

★**Ind., Indianapolis**—Bd. Pub. Wks. let contract West 10th St. main sewer to F. M. Torson, Kansas City, Mo., $10.55 per lin.ft. using brick. Noted May 17.

★**Mich., Lansing**—City let contract sewers in Barnes, Smith and Delevan Sts., to Fisher & Noyes, $11,456.

★**Ill., Champaign**—Bd. Local Improv. let contract sanitary sewer, Garwood Dist., to A. Birt, East Main St., Decatur.

★**Wis., Kenosha**—City let contract sewer in Brockett St. to P. Brandsen, $26,140.

★**Wis., Osceola**—See "Water-Works."

★**Wis., Racine**—Bd. Pub. Wks. let contract sewer and water connections in Wilson, Ann, Phillips, Holmes, 10th and 12th Sts. to F. Fair; in Carlisle Ave. to Fall Bros. Noted May 17.

★**Ia., Sioux City**—City let contract installing sewers portions 32nd and 15th Sts. to W. B. Carter. Noted May 17.

★**Ia., West Burlington**—(Official)—W. J. Giesselman, town clk., let contract sanitary sewerage system, sewage disposal plants and sewerage pumping plant to A. A. Dobson, Lincoln, $38,483. Noted May 10.

★**Minn., St. Paul**—City let contract installing sewer portion Brimhall St. to O'Neil & Preston, 60 East 6th St.

★**S. D., Aberdeen**—City let contract installing sewers, Sewer Dist. No. 123, to N. Burchard. Noted Apr. 12.

★**Ark., Clarksville**—See "Streets and Roads."

★**Okla., Claremont**—City let contract sewer in Dist. No. 13 to Municipal Excavator Co., Oklahoma.

Cal., Watts—See "Streets and Roads."

★**Ont., Listowel**—See "Reinforced Concrete."

STRUCTURAL STEEL WORK

Proposed Work

N. J., Jersey City—City had plans prepared for steel viaduct over tracks of Central R.R. of New Jersey, on Richards St. A. H. Moore, comm. of parks, in charge of work.

N. J., Trenton—City Comn. plans to build new bridge on Prospect St., 100-ft. wide. A. Swan, city engr.

N. J., Trenton—State, county and city officials approve plans of A. Harris, co. engr., for steel arch girder bridge over Sanhican Creek, on Lafayette and Willow Sts.

Pa., Hershey—State Water Supply Comn., Harrisburg, approved plans of county for bridge over Swartara Creek. Address co. clk., Harrisburg.

Fla., Jacksonville—County election July 9th to vote on bonds to build bridge over St. Johns River to connect Jacksonville and South Jacksonville. Noted Apr. 19.

O., Lima—(Official)—City to sell $100,000 bonds, June 18th, to build bridges over Ottawa River. D. L. Rupert, audr.

Mich., Grayling—Co. Supervs. plan to build 2 cement bridges over Au Sable River on Cedar and State Sts.

Ill., London Mills—County plans to build steel bridge over Spoon River near London Mills. Address Co. Clk., Lewistown.

Wis., Milwaukee—J. C. Pinney, Jr., supt. dept. bridges, submitted report to Council, estimating cost 110-ft. span on Cedar St. at $412,000; 150-ft. span, $477,000. About $250,000 available for work. G. Staal, city engr.

Wis., Shawnee—(Official)—County lets contract in June building 20 bridges, 20-88-ft. long. O. C. Rollman, comr. highways.

Minn., Bemidji—County sold $39,000 bonds to build bridges. Noted Apr. 19.

Minn., Minneapolis—City, Great Northern Ry. and Minneapolis & St. Paul R.R. plan to widen Washington Ave. bridge over railroad tracks. F. W. Cappelin, city engr. A. H. Hogeland, 4th and Jackson Sts., St. Paul, ch. engr., former R.R., and R. G. Kenly, Transportation Bldg., Minneapolis, ch. engr., latter.

Mont., Weede—Great Northern Ry. plans to build 1600-ft. bridge over Musselshell River. J. A. Bohland, St. Paul, bridge engr.

Ark., Ft. Smith—City voted to form improvement district to build bridge over Arkansas River into Sequoyah Co., Okla. About $500,000. M. H. Reed, city engr.

Tex., Galveston—City and railroads entering Galveston will receive bids about June 30 reconstructing damaged portion Galveston Causeway. Concrete-Steel Engr. Co., Park Row Bldg., New York City, engrs. F. Merritt, ch. engr., Gulf, Colorado & Santa Fe Ry., chn. bd. causeway engrs.

Okla., Buffalo—County plans to build bridges.

Okla., Chandler—See "Streets and Roads."

Okla., Eufaula—Jefferson Highway Bridge Co. soon receives bids toll bridge over South Canadian River. About $150,000. Harrington, Howard & Ash, Orear-Leslie Bldg., Kansas City, Mo., engrs. Noted Apr. 19.

Okla., Nowata—County plans to build several bridges and culverts during year.

Okla., Stroud—See "Streets and Roads."

Colo., Greeley—Union Pacific R.R. plans steel water tank, 63,000 gal. capacity. R. L. Huntley, 15th and Dodge Sts., Omaha, ch. engr.

Wash., Olympia—State Highway Comn. rejected bids building Coweman and Kalama River bridges. New bids.

Wash., Tacoma—County soon receives bids building 85-ft. steel span over Hylesbos Creek, 300-ft. long, including approaches. About $30,000. D. H. White, co. engr.

Wash., Winlock—City soon lets contract building new bridge over Olequa Creek. R. Fletcher, city engr.

Ore., Astoria—See "Streets and Roads."

Cal., Visalia—County soon receives bids building 2 bridges on State Highway between Visalia and Tulare.

Que., Three Rivers—Wayagamack Pulp and Paper Co., Ltd., plans to rebuild steel trestles. A. Helin, 103 Ave. Laviolette, engr.

Bids Desired

N. J., Elizabeth—Until June 14 by Bd. Freeholders, building new bridge over brook at Oakland Pl. J. L. Bauer, co. engr.

Pa., Granville—(Official)—Until June 9 by Town Supervs., building Daupert's Bridge, Ferguson Valley Rd. W. Snyder, secy.

N. C., Donnoha—Until June 18 by Comrs. Forsyth and Yadkin Cos., Winston-Salem, building steel bridge, concrete masonry, over Yadkin River near Donnoha. J. M. Lents, clk.

Ga., Dalton—Until July 9 by Comrs. Whitfield and Murray Cos., for 144-ft. steel bridge over Conasauga River at Jones Ford, approaches 36 and 72 ft. long. J. R. McGinty, clk. Noted Apr. 19.

O., Relly—(Official)—Until June 20 by Co. Comrs., Hamilton, building bridge over Indian Creek. W. W. Crawford, clk.

Wis., Amery—Until June 9 by Village for steel water tank. V. H. Christensen, village clk.

Ark., Morrillton—(Official)—Until June 29 by Bd. Co. Comrs. bridge over Arkansas River; advertised in this issue.

Tex., Orange—(Official)—Until July 15 by Mayor for steel frame warehouse for city; advertised in this issue.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Mass., Westfield**—(Official)—City let contract building Loomis St. Bridge to L. J. Sieling, 171 Madison Ave., New York City, $10,445. Noted May 31.

★**R. I., Oakland**—State Bd. Pub. Rds. let contract State Bridge No. 5 to E. J. Hollen, 55 Eddy St., Providence.

★**W. Va., Cass**—Co. comrs. let contract bridge over Greenbrier River to Concrete Steel Bridge Co., $11,500.

★**N. C., Shelby**—See "Railways."

★**O., Warren**—Liberty Steel Co., Western Reserve Bank Bldg., let contract steel mill and warehouse to Hunter Constr. Co. About $600,000. Noted May 10.

★**Ind., Auburn**—County let contract building 7 bridges to M. A. Butler, Spencerville.

★**Ind., Huntington**—Co. Comrs. let contract building 9 bridges to Howell & Hall, Wabash; Elkhart Bridge & Improv. Co., Elkhart; A. T. Lines, Warren; I. J. Walker, Huntington.

★**Ia., Clarion**—County let contract 2 bridges and 68 culverts to Iowa Bridge Co., Des Moines, $14,500 and $15,750 respectively; 32 culverts to H. G. White, Clarion.

★**Minn., Benson**—See "Excavation and Dredging."

★**Minn., St. Paul**—See "Streets and Roads."

★**Mo., Kansas City**—Bd. Pub. Wks. let contract, 4th St. viaduct to Midland Bridge Co., 504 Railway Exchange Bldg., $149,818.

Tex., El Paso—Co. comrs. received low bids building bridge connecting Island near Fabens with mainland from V. E. Ware, $14,400; El Paso Bridge & Iron Works, 517 El Paso & Southwestern R.R. Bldg., 2 bids, $5449 and $5719, alternate bids, $8217, $8985, $10,726; Midland Bridge Co., 504 Midland Bldg., Kansas City, Mo., 10 bids, 1, $15,295; 2, $14,800; 3, $13,765; 4, $13,000; 5, $15,450; 6, $14,700; 7, $13,660; 8, $13,180; 9, $8335; 10, $6440; Lee Moor Co., 702-2 Republics Bldg., El Paso, $8934.

★**Tex., Wichita Falls**—See "Reinforced Concrete."

★**Ariz., Clifton**—City let contract bridge over Santa Fe River to Midland Bridge Co., 504 Midland Bldg., Kansas City, Mo., $27,079.

★**Wash., Seattle**—(Official)—County let contract trestle bridge over Kenmore Slough to C. Geske & Co., Pacific Blk., $12,355. Noted May 10.

REINFORCED CONCRETE

Proposed Work

Conn., Bridgeport—Council plans to build concrete bridge over Berkshire Pond on Island Brook Ave. About $15,000. A. H. Terry, city engr.

Conn., Westville—F. L. Ford, city engr., New Haven, preparing plans concrete tide gate dam on West River, 100 ft. long.

N. J., Hopewell—Boro approved plans of Phila. & Reading R.R. for rein.-con. bridge over tracks on Greenwood Ave. S. T. Wagner, Reading Terminal Bldg., Phila., ch. engr.

Pa., Phila.—Bureau Surveys completed plans for rein.-con. bridge and viaduct over Schuylkill River, 34th and University Ave., ½-mi. long, central bascule span, 400-ft. About $1,000,000. G. E. Datesman, dir. pub. ser.

Pa., Phila.—Ketterlinus Lithographing Co., 4th and Arch St., plans 8-story, rein.-con. and steel addition, 4th St. Ballinger & Perrot, 17th and Arch Sts., archts.

Pa., Shenandoah—Shenandoah Water Co. having plans prepared by F. H. Shaw, engr., 32 North Duke St., Lancaster, for rein.-con. reservoir, 12,000,000-gal. capacity. W. H. Water, pres.

O., Akron—County having plans prepared by Harrington, Howard & Ash, engrs., Orear-Leslie Bldg., Kansas City, Mo., for building North Hill viaduct, concrete. About $1,200,000.

Minn., Minneapolis—Y. M. C. A. soon lets contract 12-story, rein.-con. and steel building, 9th St. and Mary Pl. About $600,000. Long, Lamoreaux & Long, 830 Hennepin Ave., archts. Noted May 3.

Kan., Winfield—County plans to build rein.con. bridge over Walnut River. About $20,000. F. V. Brown, clk.

Mo., Rolla—Rolla Special Rd. Dist. having plans prepared by F. G. Harris, engr., for concrete and steel bridge. Address A. A. Smith, Rolla.

Ark., Ft. Smith—I. G. Hedrick of Hedrick & Cochrane, cons. engrs., 13th and Locust Sts., Kansas City, Mo., submitted report to city estimating cost of rein.-con. bridge on Garrison Ave. from 2nd St., rising over railroads and reaching across Arkansas

Reinforced Concrete (Continued)

River with roadway wide enough for 2 vehicles and street car to cross abreast at $150,000.

Wash., Seattle—Bd. Pub. Wks. soon receives bids building rein.-con. viaduct on Yesler Way from 1st to Railroad Ave. About $20,000. A. H. Dimock, city engr.

Wash., Spokane—Centennial Flour Mill Co., Hoge Bldg., Seattle, plans 1,000,000 bushel rein.-con. terminal elevator and flour mill. G. I. Toevs, Spokane, mgr.

Cal., Esparto—Bd. Educ. soon receives bids rein.-con. school. W. H. Weeks, 75 Post St., San Francisco, archt.

BIDS DESIRED

N. Y., Schoharie—(Official)—Until June 23 by O. Wilsie, town clk., for rein.-con. arch bridge over Foxenkill Creek. E. J. Doyle, DeGraaf Bldg., Albany, engr. Noted Apr. 19.

N. J., Elizabeth—Until June 18 by Bd. Freeholders building 2 rein.-con. bridges, over Rahway River. J. L. Bauer, co. engr. Noted May 4.

N. J., Harrisonville—Until June 11 by Bd. Freeholders, Woodbury, rein.-con. bridge over Oldman's Creek. H. B. Keasbey, co. engr.

Pa., Greensburg—(Official)—Until June 11 by J. S. Sell, co. controller, rein.-con. bridge over 4 Mile Run.

Pa., Johnstown—(Official)—Until June 19 by T. J. Harris, supt. streets and pub. wks., building 2-span rein.-con. bridge over Little Conemaugh River on Walnut St., advertised in this issue.

Mich., Monroe—Until June 26 by Co. Rd. Comrs. building concrete girder bridge over Swan Creek, Sects. 6, 5, 6, 4, 10, E., Berling Twp. J. W. White, engr.

Ia., Burlington—(Official)—Until June 11 by E. P. Weinstein, city clk., 69-ft. rein.-con. bridge on West St., 26 ft. wide. C. E. Waterhouse, city engr.

Ia., Eldora—(Official)—Until June 12 by County for 3 rein.-con. bridges, 1 60-ft. and 2 42-ft. spans over Iowa River, 1-4 36-ft. spans over South Fork, 1 40-ft. span over Beaver Creek. About $18,000. E. W. Dunn, co. engr.

Ia., Sibley—(Official)—Until June 15 by J. J. Shoemaker, town supt., rein.-con. chimney; advertised in this issue.

Minn., Owatonna—(Official)—Until June 12 by city clk., for rein.-con. bridge over Straight River, 2 65-ft. arches, 34-ft. roadway, 2 8-ft. sidewalks, etc. H. Dartt, city engr.

Ariz., Clifton—Until June 25 by Town Council, building rein.-con. bridge over San Francisco River. A. J. Kerr, town engr.

Ont., Tansley—Until June 11 by W. Panton, Milton, for rein.-con. bridge. About $60,000.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Mass., Boston**—Carter Rice Corp. let contract large rein.-con. storage warehouse, Summer St., to Natl. Engr. Corp., 40 Central St.

★**Mass., Boston**—A. Geiger, Jr., 95 Milk St., let contract 2-story, 50 x 200-ft. rein.-con. garage, Brookline Ave., to Evatt Constr. Co., 161 Devonshire St.

★**N. J., Paterson**—Bd. Freeholders let contract 3 span rein.-con. bridge over Passaic River to Logan Constr. Co., 13 Park Row, New York City, $63,500. Noted May 3.

★**Pa., Pittsburgh**—County let contract 2 rein.-con. bridges, Station No. 31, Baldwin Twp., Station No. 57, Mifflin Twp. to Pitt Constr. Co., Fulton Bldg., $5510 and $10,162 respectively.

★**Md., Baltimore**—State Rds. Comn. let contract 116-ft. rein.-con. bridge, over 15-mi. creek on National Pike to J. G. Robinson, Hancock.

★**Ga., Atlanta**—Southern Ry., Georgia Ry. and Power Co. and County let contract rein.-con. bridge over Southern Ry. tracks near Bolton to A. Tufts, Candler Annex.

★**O., Marietta**—City let contract rein.-con. reservoir on Gross Hill to A. F. Morelock, Fulton Bldg., Pittsburgh, $75,956. Noted May 31.

★**Ia., Harlan**—County let contract building 18 rein.-con. box culverts to Lana Constr. Co., 301-4 Rogers Bldg., Council Bluffs, $18,281.

★**Neb., Omaha**—Chicago-Great Western R'Y. let contract rein.-con. dryer building, 1 to 3 stories, also 39 tanks, to R. H. Follwell Engr. Co., Monadnock Bldg., Chicago. About $110,000.

★**Tex., Wichita Falls**—Co. comrs. let contract rein.-con. bridge on Burnett St. to Missouri Valley Bridge & Iron Co., Denver, $44,890; 2 steel bridges over Wichita River to Austin Bros., 156 Greenwood Ave., Atlanta, $33,436.

★**Cal., San Dimas**—(Official)—San Dimas Water Co. let contract installing 7,000,000-gal. rein.-con. reservoir to Klusinan & Elsae, Cucamonga. Noted May 17.

★**Cal., San Rafael**—McLeran & Peterson let contract concrete lining for Pine Mountain Tunnel to Cahill-Vensano Co., 460 Montgomery St., San Francisco, $41,375.

★**Ont., Listowel**—Town let contract 150,000 gal. concrete reservoir to F. Frost, Hanover.

STREETS AND ROADS

Proposed Work

Mass., Somerville—City plans to spend $25,000 to build new streets, $35,000 for permanent pavements, $65,000 for macadam paving and $25,000 to build sidewalks. H. E. Wemyss, aud.

N. J., Glen Ridge—Bd. Freeholders, Newark, soon receives bids paving Ridgewood Ave. F. Reimer, co. engr.

N. J., Irvington—Bd. Freeholders, Newark, soon receives bids paving Sandford Ave. F. Reimer, co. engr.

N. J., Montclair—Bd. Freeholders, Newark, soon receives bids paving Grove St. and Upper Montclair Ave. F. Reimer, co. engr.

N. J., Newark—County soon receives bids paving 3 streets. F. A. Reimer, co. engr.

N. J., New Brunswick—State Highway Comn. appropriated $110,000 to build roads in county.

N. J., Paterson—County receiving bids in July, improving Greenwood Lake Rd.

N. J., Summit—City plans to pave Summit Ave., concrete or other material. O. J. Swensson, city engr.

N. J., Trenton—City Comn. to sell $246,000 bonds to improve various streets and build 2 municipal buildings. J. R. Fell, Jr., city engr.

N. J., Weehawken—Union Hill Bd. Trade plans to pave Hudson Ave. and Gardner St., asphalt, also improve New York Ave.

Pa., Brownsville—Council plans to pave portion New Water St. C. W. Coulter, secy.

Pa., Johnstown—L. Franke, mayor, approved $25,000 bond issue to pave streets and $50,000 for paving and other improvements at Point Dist.

Pa., Lemoyne—City plans to pave Rossmoyne St., concrete. Address C. B. Nebinger.

Pa., Reading—Berks & Dauphin Turnpike Co. appropriated $75,000 to pave 28-mi. road from Wernersville to Hummeltown.

Del., Wilmington—City plans to pave Market St., asphalt. E. M. Hoopes, Jr., city engr.

W. Va., Merril—County soon lets contract building 24-mi. road.

Ga., Americus—City plans to pave 10,000 sq.yd. streets, concrete. J. B. Ansley, city engr.

Ga., La Grange—City plans to pave 60,000 sq.yd. streets. G. H. Sargent, city engr.

O., Ashland—R. R. Conn, city engr., submitted report estimating cost paving portion Virginia and East 4th St. at $19,982 and $5758 respectively. Noted May 24.

O., Berea—City plans to pave 3rd St.

O., Cincinnati—Council passed resolution to pave and improve Quebec and Madison Rds., Vineyard, Dunholter, Rockford and Gage Sts. F. Krug, city engr.

O., Cleveland—City plans to build sidewalks on various streets; also pave East 128th, East 143rd, East 157th, East 138th, East 160th, East 123rd Sts. and several other streets, Benham and Pythias Aves., brick, McElhattan Ave., brick, asphaltic concrete, or bitulithic. R. Hoffman, city engr.

O., Elyria—City plans to pave Ohio St. and portions Eastern Heights Blvd. and West Ave. C. M. Theobald, city engr.

O., Girard—City plans to pave Kline St.

O., Lima—City plans to pave several roads. J. T. Heffner, clk.

O., Sidney—City plans to pave various streets.

O., Springfield—City plans to pave portion Main St. M. J. Bahin, city engr.

O., Toledo—City plans to repave Dorr St. H. McKechnie, city engr.

Ind., Ft. Wayne—F. M. Randall, city engr., preparing plans paving 29 streets, including portion Smith, Lasalle, Liberty, Coombs, Tecumseh and Miner Sts., Dodge, Alabama, Riverside, Lake, Grace, South Wayne and Kinnaird Aves.

Mich., Alma—See "Sewers."

Ill., Freeport—A. Hepner, city engr., making surveys paving portion Galena and Locust Sts. and Lincoln Ave., asphalt or creosoted block.

Ill., Streator—City passed ordinance to pave Elm St. T. G. Evington, mayor.

Ill., Union—Town plans to spend $125,000 to build and improve roads in county, sand and clay. Address R. A. Easterling.

Wis., Appleton—County plans to spend $400,000 to build highways. W. F. Wolf, co. aud.

Ia., Council Bluffs—City plans to build sidewalks and curbs. E. V. Gustafson, clk.

Minn., Chaska—County to let contract in July building 30-mi. road.

Minn., Princeton—County soon lets contract building and improving 100-mi. road. About $150,000. J. D. Gray, highway engr. Noted Apr. 19.

Kan., Hutchinson—City plans to construct 15,000-ft. curb and gutter. C. L. McLane, city engr.

Kan., Lawrence—City preparing plans paving 7 blocks, brick, 30 ft. wide. A. Dunmire, city engr.

Neb., Omaha—City passed ordinance to repave 11th, 12th, 15th, Nichols, Howard and Jackson Sts. J. O. Bruce, city engr.

Neb., Red Cloud—City plans to pave 17,000-yd. and 4500-ft. curb and gutter, concrete or brick. Grant & Fulton, 510 Bankers Life Bldg., Lincoln, engrs.

N. D., Wahpeton—City Council soon receives bids paving 8th St.

Mo., California—City plans to pave streets in business section. H. B. Hardy, clk.

Mo., Dudley—City plans to pave number of streets. C. A. Hall, clk.

Mo., Independence—County soon lets contract resurfacing Independence Rd. between Independence and Kansas City. O. C. Sheley, co. engr.

Mo., Joplin—Co. voted $14,285 for concrete highway from Joplin to Miami, Okla.; about $65,000 now available for this work.

Mo., Sedalia—City plans to pave 12,000 yd. 13th St., concrete. F. T. Leaming, engr.

Mo., Sweet Springs—County plans election to vote on $75,000 bonds to build 9-mi. link, Sedalia-Lexington Rd., Sweet Springs Rd. Dist. Address Co. Clk., Marshall.

Ark., Camden—Engineers of State Highway Dept., Little Rock, making surveys building road from Camden to west line of Lafayette Co.

Ark., Des Arc—County let contract about June 15 building 9-mi. macadam road from Prairie-Woodruff Co. line west through Des Arc. About $54,000. E. E. Washburn, co. engr.

Ark., Pocahontas—(Official)—County soon receives bids building 35-mi. macadam road from Pocahontas to Missouri state line. About $126,000. J. D. Wells, comr.

Tex., Dallas—Comrs. Court of Dallas Co. adopted recommendations of J. F. Witt, co. engr., for expenditure of $500,000 for construction of concrete roads; specifications for proposed work are being prepared and bids will be received latter part of July. Work as outlined by engineer is as follows:

Dallas-Ft. Worth Rd.—Aside from making all bridges permanent, provision is made for portland cement concrete pavement from end of new embankment of Commerce St. viaduct to foot of Obenchain Hill in West Dallas, 1½ mi.; same type of pavement provided for section of road through Mountain Creek bottom, 1.45 mi., cost $73,424.

Dallas-Coppell Rd.—Permanent bridges to replace all timber bridges portland cement concrete pavement, 18 ft. wide from intersection with West Dallas pike to foot of Hasty Hill, 2 mi. from point where Eagle Ford Rd. intersects this road across bottom lands of West Fork of Trinity River to foot of Britain Hill, raising road above high water with earth embankment, gravel surfacing and 1000 lin.ft. concrete bridging covering 1.8 mi., cost $106,653.

Streets and Roads (Continued)

Dallas-Denton Rd.—Replace all timber bridging either with steel or concrete, cost $16,500.

Preston Rd.—Repairs to bridging, $2000.

Richardson Rd.—Replacing timber culverts with concrete, $4900.

Garland Rd.—Replacing timber bridges with either steel or concrete, portland cement concrete pavement 18-ft. wide through White Rock Creek bottom, 2000 ft., portland cement concrete pavement 16 ft. wide through Rowlett Creek bottom, and raised earth embankment with gravel surfacing through Muddy Creek bottom, cost $58,258.

East Pike—Replacing timber bridges and culverts with either steel or concrete, $26,700.

Dallas-Seagoville Rd.—Replacing all timber bridges and culverts with either steel or concrete, road which passes through White Rock Creek bottom to be raised above mean high water with earth embankment and 100 lin.ft of steel and concrete bridging, using gravel as surfacing material, cost $84,900.

Miller's Ferry Rd.—Replacing all timber bridges with either steel or concrete, including 700 lin.ft. of concrete bridging through Five Mile Creek bottom, cost $44,500.

Lancaster Rd.—Replacing all timber bridges and culverts with either steel or concrete, cost $16,500.

Beckley Rd.—Replace all timber bridges and culverts with either steel or concrete, $31,200.

Cedar Hill Rd.—Replace all timber bridges and culverts with either steel or concrete, $25,400.

Tex., Houston—County election June 27 to vote on $1,100,000 bonds to build and improve roads.

Tex., Houston—County election June 27 to vote on $1,400,000 bonds for resurfacing 235 mi. county highways. Noted Apr. 19.

Tex., Paris—(Official)—County plans election to vote on $900,000 bonds to build roads. Former election defeated. Noted May 17.

Okla., Ardmore—A. B. Payne, city engr., preparing plans estimating cost paving, curbing and guttering, drives and roadways, Whittington Park; also curbing and guttering west side city's new park, College Hill site.

Okla., Bristow—Citizens of Creek Twp. plan election June 8 to vote on $15,000 bonds to build roads.

Okla., Bristow—City plans to pave Main St.

Okla., Chandler—County election June 16 to vote on $60,000 bonds to build roads and bridges.

Okla., Frederick—City plans to pave South 10th St.

Okla., Hewitt—Town election June 23 to vote on $70,000 bonds to build and improve roads.

Okla., Holdenville—Citizens of Bernard Twp. voted $50,000 bonds to build roads.

Okla., Hugo—County election June 11 to vote on $50,000 bonds for roads in Willow Twp.

Okla., Miami—County plans election to vote on $500,000 bonds to build roads.

Okla., Stroud—Citizens of Keokuk Twp. plan election June 16 to vote on $60,000 bonds to build roads and bridges.

Okla., Tulsa—City retained Hare & Hare, landscape archts., Kansas City, Mo., and Brennan & Rooney, engrs., 25 Culbertson Bldg., Tulsa, to prepare plans for boulevard system which will include Sunset and Swan Parks residential additions together with Woodward, a city park. Boulevard will extend to Kendall College along river to waterworks which will be converted into park ground. Noted Apr. 26.

Idaho, Lewiston—City retained Sawyer Bros., engrs., White Bldg., Seattle, to prepare plans paving Main St. and Idaho Ave., et al. About $14,000.

Idaho, Pocatello—Council plans to pave 14 blocks North Garfield St. J. H. Giles, city engr.

Wash., Olympia—City to let contract in July paving ½ mi. streets. R. F. Wood, city engr.

Wash., Seattle—A. H. Dimock, city engr., submitted report to Bd. Pub. Wks. estimating cost paving Latona Ave. at $35,084.

Wash., Tacoma—Co. comrs. soon receive bids paving 10 mi. between Orting and Burnett. Cost between $135,000 and $160,000. D. H. White, co. engr.

Wash., Vancouver—Co. comrs. approved plans of B. L. Dorman, co. engr., paving River Rd., 24-ft. roadway, 16-ft. pavement, 2-ft. crushed rock shoulder on each end, 2-ft. dirt embankment, concrete, 6 in. thick, asphaltic concrete and bitulithic on 4-in. base. About $40,000 available.

Wash., Winlock—Council plans to pave and grade North 1st St., et al., concrete, wood block or some other hardsurfacing. About $12,000.

Ore., Astoria—Council soon receives bids clearing, grading, building trestles, etc., portion 18th St. About $18,000.

Ore., Newburg—Council plans to improve portion Franklin St., et al. About $12,000.

Ore., Nysa—Town plans to pave 2 mi. streets, concrete. C. C. Wilson, mayor.

Ore., Roseburg—C. C. Kelly, asst. state highway engr. made surveys, highway between Roseburg and Myrtle Point. About $100,000.

Ore., Salem—County soon receives bids paving portion Siskiyou Highway. About $65,000.

Cal., Auburn—City receiving bids in June paving business streets, concrete. About $45,000.

Cal., Fairfield—Bd. Supervs. receiving bids in July building 1st Sect. of highways to be constructed under $500,000 bond issue.

Cal., Fresno—City plans to improve portions Iowa and White Bridge Sts. B. E. Cronkite, city engr.

Cal., Los Angeles—City plans to pave portion Eagle, Atlantic and Lawrence Sts. H. Hamlin, city engr.

Cal., San Diego—City receiving bids about latter part June paving 25 blocks on A, Ash, Beech, Cedar, 7th, 8th and other streets. G. Cromwell, city engr.

Cal., San Francisco—City plans to extend and pave Parker Ave. About $75,000. M. M. O'Shaughnessy, city engr.

Cal., Visalia—B. Lovelace, co. surv., prepared plans building 8 mi. highway from Exeter to Lindsay. Bids will soon be received.

Ont., Magog—See "Sewers."

Ont., Mitchell—City having plans prepared building macadam roads. Bids will soon be received. Address W. A. Ryan.

Ont., New Hamburg—Town Council soon receives bids paving various streets, concrete. About $15,000.

BIDS DESIRED

N. Y., New York—Until June 15 by M. M. Marks, boro. pres., regulating and repaving portions Pine, Macdougal, 19th, 35th, 48th, 57th and Monroe Sts., 6th, Lexington and Lenox Aves.

N. J., Belvidere—(Official)—Until June 20 by Bd. Chosen Freeholders completing 4107-mi. Washington-Buttzville Rd., Sect. 1; advertised in this issue.

N. J., Camden—Until June 18th by Highway Dept. paving portion Coates Ave., 8-in. concrete. F. S. Vanhart, chn.

N. J., Jersey City—Until June 14 by Bd. Comrs. paving Hutton St., belgian block. F. A. Dolan, clk.

N. J., Newton—(Official)—Until June 13 by Town Com. building 5600 sq.yd. concrete pavement, 1700 lin.ft. curbing 1100-cu.yd. excavation; advertised in this issue.

N. J., Roselle Park—Until June 15 by Mayor and Council improving Webster Ave.; plans include 4431-sq.yd. concrete pavement, bituminous surface 2040 lin.ft. blue stone curbing, etc. J. Wallace, boro. engr.

N. J., Wildwood—Until June 19 by County rebuilding Holley Beach Rd. L. M. Rice, Cape May, co. engr.

Md., Baltimore—(Official)—Until June 12 by State Rds. Comn. building roads in various counties; advertised in this issue.

W. Va., Hamlin—(Official)—Until July 2 by A. F. Black, co. clk., grading and hard surfacing 6-mi. roads. Noted May 31.

W. Va., Kingwood—Until June 16 by County building 15-ft. concrete road from Maryland line in Portland Dist. to Terra Alta and from Terra Alta to Pleasant Dist. line on Kingwood & Brandonville Pike. E. C. Everly, clk.

N. C., Clinton—(Official)—Until June 19 by Bd. Comrs. for street improvements; advertised in this issue.

O., New Junction—Official)—Until June 20 by Village paving, grading, curbing, building sidewalks and installing sewers in various streets; advertised in this issue.

O., New Philadelphia—Until June 11 by A. Nussdorfer, co. aud., for grading Leonard Rd., Jefferson Twp.

O., Springfield—Until June 13 by City improving and paving portions Belmont, High and Columbus Sts. M. J. Bahin, city engr.

Ohio—Until June 14 by State Highway Comn., Columbus, repairing 106 mi. state roads and building 53 mi. new roads. About $1,042,614. C. Cowen, comr.

Ia., Mason City—Until June 11 by City, paving 17,314-yd. E. P. Wilson, city engr.

Mo., Bethany—Until June 12 by City paving 17,214-yd. E. P. Wilson, city engr.

Ark., Pine Bluff—(Official)—Until June 20 by Humphreys & Tovey, engrs. for district, 416 Citizens Bank Bldg., building 40-mi. bituminous macadam roads, advertised in this issue.

Okla., Oklahoma—Until June 9th by Fairlawn Cemetery Assn. building complete system of driveways, concrete, sheet asphalt, asphaltic concrete or gravel. Address F. S. Surts, 509 Patterson Bldg.

Utah, Salt Lake City—Until June 18th by city; paving in Paving Extension No. 135, East 3rd St., Extension No. 69, Canyon Rd., No. 111, 9th South St., cement sidewalks on California and 8th West Sts. S. Q. Cannon, city engr.

Ariz., Yuma—(Official)—Until June 12 by City, Paving 2nd Ave. and 1st St., also installing sewers, Sewer Dist. No. 2. S. F. Stanley, redr.

Wash., Wapato—Until June 11 by C. A. Norton, city clk., paving Wapato Ave., et al. About $22,147. Noted May 17.

Cal., Red Bluff—Until June 12 by H. G. Kuhn, co. clk., paving Kauffman Causeway.

B. C., Trail—(Official)—City receiving bids in June installing 4-mi., 15- and 8-in. sewers. About $40,000. A. L. McCulloch, Nelson, cons. engr. Noted May 31.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★Mass., Great Barrington—Massachusetts Highway Comn., Boston, let contract building section public road to Lane Constr. Co., 37 Colony St., Meriden, Conn., $23,623.

N. Y., Albany—State Comn. Highways, 55 Lancaster St., received low bids May 28, repairing highways in various counties as follows: Repair contract No. 1113, roads Nos. 198 and 566, Albany Co., S. B. Van Wageneni, Inc., Rondout, $37,440; Lane Constr. Corp., Meriden, Conn., $38,491; W. L. Lawton, Glens Falls, $40,948. Repair contract No. 1040, road No. 684, Cayuga Co., E. M. Harvie, Savannah, $10,665; G. C. Hill, Fulton, $11,301. Repair contract No. 1091, roads Nos. 341 and 649, Columbia Co., John A. Jova, Inc., Newburgh, $44,701. Repair contract No. 1111, road No. 5368, Greene Co., H. Miller, Albany, $60,065; C. I. Scheontag, Saugerties, $61,769; J. Walker, Albany, $62,235. Repair contract No. 1068, roads Nos. 460, 461, 463, 465, 466, 471-830-5466 and 5524, Herkimer Co., Newport Constr. Co., Herkimer, $20,631. Repair contract No. 1106, Road No. 643, Niagara Co., Greece Constr. Co., Rochester, $29,918; F. L. Cohen, Buffalo, $32,877. Repair contract No. 1089, road No. 5576, Ontario Co., Greece Constr. Co., Rochester, $41,837; Dale Engr. Co., Utica, $42,411. Repair contract No. 1044, road No. 390, Orleans Co., Greece Constr. Co., Rochester, $15,300; C. A. Ingersoll, Medina, $19,300. Repair contract No. 1099, road No. 678, Otsego Co., S. K. Johnson, Norwich, $17,495. Repair contract No. 1116, roads Nos. 981 and 5196, Rensselaer Co., Belmar Contr. Co., Troy, $18,236; W. L. Lawton, Glens Falls, $18,829; J. B. Dower, Ballston Spa., $18,936. Repair contract No. 1114, road No. 1018, Suffolk Co., R. W. Smith Corp., New York City, $11,482. Repair contract No. 1101, road No. 794, Suffolk Co., R. W. Smith Corp., New York City, $37,968; Estate of Louis Balbuzzi, Huntington, $43,695. Repair contract No. 1110, roads Nos. 231 and 319, Ulster Co., De Graff & Hogeboom, Inc., Kingston, $11,326. Repair contract No. 1102, roads Nos. 34, 52 and 53, Westchester Co., F. L. Cohen, Buffalo, $115,858; Oswego Constr. Co., Inc., Dayton, $116,889; E. T. Eggleston, Yonkers, $116,941. Road No. 1484, Phila. Village: North and South Main Sts., Jefferson Co., 0.66 mi., Ross Bros., Copenhagen, $13,037; Pathfinder Constr. Co., Fulton, $13,562. Road No. 1332, Claverack-Chatham, Part 3, Columbia Co., 7.77 mi., R. A. Felton, Albany, $50,546. Noted May 17.

N. Y., New York—(Official)—M. M. Marks, boro. pres., received low bids paving (a) various streets in Manhattan, (b) portion Broome St., (c) Academy St., (d) 86th St., (e) Jefferson St., (f) Central Park Transverse Rd., No. 4; from Sicilian Asphalt Paving Co., 41 Park Row, (a) $63,960, (d) $36,209; Cleveland Trinidad Paving Co., 420 Lake Side Ave., N. E., Cleveland, (b) $52,205, (d) $36,331; Cramer & Leedke, (c) $35,340; W. J. Fitzgerald, 547 West 45th St., (e) $14,160, (f) $36,418.

Streets and Roads (Continued)

★**N. J., Bayonne**—City Comn. let contract paving 12 streets, asphalt and macadam, to W. T. Crichfield, 54 5th St., Hoboken, $150,000.

N. J., Jersey City—Boulevard Comn. received low bid paving Sect. 7, Hudson Co. Blvd., from W. T. Crichfield, 54 5th St., Hoboken, $96,881.

★**N. J., Newark**—Bd. Pub. Wks. let contract paving Prince St. wood block, to Atlas Contr. Co., Essex Bldg., Newark, $23,580; White Terrace, asphalt, to Northern Constr. Co., 665 Broad St., $5802. Noted May 31.

★**N. J., Orange**—(Official)—City let contract paving portion Center St. involving 9020 sq.yd. Hastings Asphalt Blocks to L. Batt, Orange St., South Orange, $29,771.

★**N. J., Rutherford**—Bd. Freeholders let contract paving portion Rutherford Ave. to G. B. Belcher, 257 Passaic St., Hackensack.

★**N. J., West New York**—(Official)—City let contract paving portion Jackson St., involving 2224 sq.yd. Hastings Asphalt Blocks, to G. J. Hornumg, 513 16th St., $14,389.

★**Pa., Johnstown**—County let contract paving road from Johnstown to Westmont, brick, to G. W. Clark, Johnstown, and Clay Mfg. Co., Winber, $17,102.

★**Pa., Phila.**—A. Datesman, dir. dept. pub. wks., let contracts paving various streets: (a) asphalt, (b) vitr. block, (c) wood block, (d) granite blocks, (e) macadam, (f) bituminous, as follows: Barber Asphalt Co., Land Title Bldg., portion Dilworth St., (a) $4083, Lycoming Ave., (a) $2216; Phila. Paving Co., 1345 Arch St., Ludlow St., (a) $2938; Cunningham Paving & Constr. Co., 1345 Arch St., Berkeley and Apsley Sts., (b) $14,088; J. Meehan & Sons, 915 West Dauphin St., Camac St., (c) $1420, Germantown Ave., (d) $20,893; J. J. McHugh, 1430 South Penn Sq., Woodland Ave., (d) $80,000; P. J. Snyder & Co., Bailey Bldg., Delmar and Lamont Sts., (e) $10,205, Fanshawe St., (e) $6252; Gates St., (e) $7097; Wissahickon Ave., (e) $6300; Curtis Bros., Magee and Tordesdale St., Jackson St., (e) $3062; Eastern Paving Co., 1416 South Penn. Sq., Torresdale Ave., (f) $41,752.

★**Va., Winchester**—(Official) — City let contract resurfacing and treating with Tarvia seal coat 150,000 sq.yd. macadam roads to Tarvia Co. About $10,000. Noted May 17.

★**N. C., Hickory**—(Official)—City let contract paving 40,000 sq.yd. sheet asphalt to Ely Constr. Co., Charlotte, $60,000. Noted May 1.

★**S. C., Beaumont**—(Official)—City let contract paving 13,000 sq.yd. and 6000 ft. curbing to Southern Clay Mfg. Co., James Bldg., Chattanooga, $21,390. Noted May 4.

★**Ala., Birmingham**—City Comn. let contract paving 8300 sq.yd. 24th St., S., to Dunn Constr. Co., Chamber Commerce Bldg., $14,000.

★**Miss., Clarksville** — (Official) — City Comrs. let contract paving 30,000 sq.yd. asphaltic concrete, 700 lin. ft. curb and gutter, inlets, etc., to Memphis Asphalt & Paving Co., 811 Falls Bldg., Memphis, $66,000. Noted May 17.

★**La., Crowley**—State Highway Dept. let contract Crowley-Jennings Highway to Perry-Bonner Co., Alexandria, $51,000.

★**La., Shreveport**—Police Jury let contract Bethany Rd. to Hall Nattin, Shreveport, $32,413; Jefferson Rd. to Gray Stinson, Shreveport, $2332; roads in Vivian-Lewiston-Trees City to J. B. Willis, Greenville, Tex., $11,060. Noted May 10.

Ky., Catlettsburg—County received low bids building roads from G. B. Carey, Lexington.

O., Columbus—Co. Comrs. received low bids paving Dovlestown-Easton Rd. from Hart & Kemp, Elyria, $45,000.

★**O., Dayton**—(Official)—Co. Comrs. let contract paving Central Ave., brick to Bigler Bros., Middletown, $23,112. Noted May 17.

★**O., Dayton**—(Official)—Co. Comrs. let contract paving portion Keowee St. to J. Wroe, 435 Grafton Ave., $52,000. Noted May 17.

★**O., Johnstown** — (Official) — E. H. French, village clk., let contract improving portion Coshocton St. to Keely & Bolin, Newark, $19,699. Noted May 17.

O., New Kensington—Co. Comrs., Greensburg, let contract 1½-mi. road to Rinehart Bros., East Liverpool, $58,334.

★**O., Toledo**—(Official)—County let contract rebuilding Jerusalem Rd. and resurfacing Detroit Ave., No. 11, and Central Ave., No. 21 to Barrett Co., Toledo. Noted May 17.

★**Ind., Anderson**—County let contract paving 2 mi. Madison Rd. to Daniels & Lyst, Anderson.

★**Ind., Danville**—Co. Comrs. let contract building 3-mi. macadam road to Hurst-Sweet & Co., $20,000.

★**Ill., Bloomington**—Bd. Local Improv. let contract paving portion West Walnut St. to I. D. Lain, Bloomington, $14,439; building concrete walks during year to G. W. Bansau, 10½c. per sq.ft.

★**Ill., Jacksonville**—Bd. Local Improv. let contract building and improving South Main St. to J. E. Bretz, 224 East Union St., Springfield, $13,995.

★**Wis., Menasha**—City let contract paving 1st, 2nd and Tayco Sts. to Rasmussen & Sons, Oshkosh, $38,000. Noted May 10.

★**Wis., Shawano**—(Official)—County will grade and gravel roads by day labor. Noted May 24.

★**Minn., Hibbing**—Co. Comrs. let contract building Smith Rd., Stuntz Twp. to Malmquist Bros., Hibbing, $17,000.

★**Minn., St. Paul**—City let contract (a) grading and building retaining walls, (b) bridge, (c) underpinning building caused by opening of 9th St. from Smith to Summit Aves., as follows: Thornton Bros., 1312 Snelling Ave., (a) $40,687; W. J. Hoy, 700 Metropolitan Bldg., (b) $9119, (c) $12,019.

★**Kan., Downs**—City let contract paving 30,000-yd. brick, to McGuire & Stanton, Leavenworth, $80,000. Noted May 3.

★**Kan., Hutchinson**—City let contract paving Hyde Park to Stamey-Mackey Constr. Co., $36,820.

★**Kan., Hutchinson**—County let contract grading and graveling to Wheeler & Kelecher, Garden City, $36,840.

★**Kan., Topeka**—(Official)—City let contract paving 11,500 sq.yd. brick to Ritchie Bros., Topeka, $32,547. Noted May 10.

★**N. D., Fargo**—County let contract building 71-mi. highway to Threadwell Twichell, Mapleton, $22,795.

★**N. D., Fargo**—City let contract paving 8th St. and 7th Ave. to C. T. Welsh & Co., 2628 Humboldt Ave., S., Minneapolis, $37,-995.

★**Ark., Clarksville**—(Official)—Bd. Comrs. Paving Dist. No. 1, let contract 15,790 sq.yd. concrete or asphaltic concrete pavement, 8200 ft. curb and gutter and 1200 ft. 15- and 18-in. storm sewers to Taylor, Walker & Bell, Maxahachie, Tex., $30,551. Noted May 10.

★**Ark., Jonesboro**—City let contract paving 15-mi. streets to Kaw Paving Co., Topeka, Kan., $300,000. Noted May 10.

★**Okla., Ardmore**—City let contract paving E St. to Struble & Mitchell, Pauls Valley, $42,350. Noted May 17.

★**Idaho, Kellogg**—City let contract paving streets, concrete, to C. M. Payne, Spokane, $14,771.

★**Utah, Salt Lake City**—City let contract paving 9th South St. to P. J. Moran, Inc., Felt Bldg., $29,286.

★**Wash., Montesano** — (Official) — Co. Comrs. let contract paving Permanent Highway No. 14 to Grays Harbor Constr. Co., Hoquiam, $40,426; East Hoquiam Rd. to R. Henry, Aberdeen, $12,877. Noted May 10.

★**Wash., Seattle**—Bd. Pub. Wks. let contract paving Occidental Ave., et al., to McGuire Bros., 523 1st Ave., $73,315. Noted May 31.

★**Wash., Seattle**—Co. comrs. let contract paving Northeast Diagonal Rd. to Washington Paving Co. L. C. Smith Bldg., $192,800. Noted Apr. 19.

★**Wash., Sunnyside**—Council let contract paving streets, business district, bitulithic, to Warren Constr. Co., Journal Bldg., Portland, Ore., $62,629.

★**Ore., Portland**—City let contract paving Willow and Madison Sts. to Warren Constr. Co., 14-16 Asso. Bldg. About $10,000. Noted May 4.

★**Ore., Roseburg**—County let contract paving 4000 yd. Pacific Highway to O. T. Larson, Roseburg.

★**California**—(Official)—State Highway Comn., Sacramento, let contracts building roads in counties as follows: Alameda Co., Div. 4, Route 5, Sect. B, to Bates, Borland & Ayer, Oakland Bank of Savings Bldg., Oakland, $29,306; Siskiyou Co., Div. 11, Route 3, Sects. A & B to J. H. Mays, Napa; Los Angeles Co., Div. 7, Route 4, Sect. C to Brashear-Burns, Hollywood, $28,903; Santa Barbara Co., Div. 5, Route 2, Sect. E to I Hodson, San Luis, Obispo, $59,950; Solano Co., Div. 3, Route 8, Sect F to Harlan & Harlan, Williams, $26,977 Noted May 31.

★**Cal., Bakersfield**—Bd. Supervs. let contract improving 8.32-mi. Div. 10, Sect. 11, Weed Patch Loop, to L. G. Garnsey, 514 Central Bldg., Los Angeles, $68,780; 10.81-mi. Div. 2, Sect. 1, Wasco-McFarland Rd. to G. S. Benson & Son, 521 Stimson Bldg., Los Angeles, $44,548.

★**Cal., Oxnard**—City let contract paving various streets, bitulithic on bituminous base, to Fairchild-Gilmore-Wilton Co., Pacific Electric Bldg., Los Angeles, $104,557.

★**Cal., Sacramento**—Co. Comrs. let contract building H St. Highway to Burns, Jacinto & Da Rosa, Sacramento, $59,892; Sacramento-Freeport Highway to Contra Costa Constr. Co., 2323 Shattuck St., Berkeley, $27,043.

★**Cal., Ventura**—Bd. Supervs. let contract paving, grading and building rein.-con. culverts as follows: 4½ mi. to Fairchild-Gilmore-Wilton Co., Pacific Electric Bldg., Los Angeles, $16,040; 4.11 mi. to C. H. Hudson, 408 Marsh-Strong Bldg., Los Angeles, $14,-081; 1.74 mi. to A. Holloway, 471 South Bway., Pasedena, $9416.

Cal., Watts—City received low bid 94,-288 sq.ft. Topeka surfacing, 4012 lin.ft cement curb, 12,167 sq.ft. cement sidewalks, 2042 lin.ft. 8-in. vitr. pipe, sewer, etc., in Main St. from T. H. Heinauer, Watts, $22,810.

RAILWAYS—STEAM & ELECTRIC

Proposed Work

New Jersey—Bd. Pub. Utility Comrs. granted permission to New York Central R.R. to issue $10,000,000 bonds, of which $7,778,503 is to reimburse treasury and $2,221,497 for improvements to system. G. W. Kittredge, Grand Central Terminal, New York City, ch. engr.

New Jersey—Jersey Central Traction Co. received franchise from City Council to construct and operate electric railway in South Amboy. T. W. Wilson, 603 Market St., Wilmington, Del., gen. mgr.

Pennsylvania—Cornwall & Lebanon R.R. plans double-tracking line from Lebanon to Conewago, also sidings in vicinity of Colebrook and Mt. Gretna. A. D. Smith, 143 Liberty St., Lebanon, pres. and genl. mgr.

Delaware—J. G. Gray, Market and 10th Sts., Wilmington, interested in standard-gage electric railway from Wilmington to Easton, Md., via Newark, Del.; Elkton, Chestertown and Centerville, Md., about 75 mi.

North Carolina—(Official)—J. A. Vandergrift, 115 Bway., New York City, will soon begin surveys on proposed railway from Shelby to Morgantown, 42-mi.

South Carolina—Columbia Railway, Gas & Electric Co. plans extension to prospective U. S. Army camp east of Columbia, between 5 and 10 mi. long. A. L. Kenyon, Arcade Bldg., Columbia, genl. mgr.

Georgia—Nashville, Chattanooga & St. Louis Ry. plans branch from Graysville to Ft. Oglethorpe, about 4½ mi. H. McDonald, Nashville, ch. engr.

Ohio—Ohio Traction Co. will construct new tracks in Wyoming (Cincinnati P. O.). About $60,000. T. Fitzgerald, Traction Bldg., Cincinnati, genl. mgr.

Montana—Chicago, Milwaukee & St. Paul Ry. plans line from Piedmont to Dillon, about 60 mi., to connect road with Oregon Short Line and affording direct outlet to southwest coast. C. F. Loweth, Chicago, ch. engr.

Texas—Houston & Texas Central R.R. soon receives bids for about 35,000 cu.yd. grading for constructing roadbed, spur track 4 mi. long near Richmond. W. E. Costello, Ennis, supt.

Oklahoma—Atchison, Topeka & Santa Fe Ry. plans to extend line from Ralston to Owen, via Pawhuska, and through oil fields. C. F. W. Felt, Chicago, ch. engr.

Arizona—Prescott & Phoenix Short Line R.R., recently incorporated with $2,500,000 capital stock, plans 50-mi. railway from Glendale, Maricopa Co. to southerly terminus of Atchison, Topeka & Santa Fe R.R.'s branch at Turkey, Yavapai Co. E. P. Hervey, 34 Nassau St., New York City, and R. E. Sloan, Phoenix, incorporators.

California—Howard Terminal Co., recently organized, will construct several miles railway along water front at Oakland to connect Western Pacific with Southern Pacific Lines. S. H. Boardman, 2820 Bway., San Francisco, promotor.

Ontario—Toronto Street Railway plans branch line from Queens St. Bridge to Ash-

Railways (Continued)

bridges Bay, Toronto. About $175,000. R. J. Fleming, 92 King St., Toronto, mgr.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**North Carolina**—Shelby Northern Ry. let contract line from Shelby to Casar, via Fallston, 22 mi., including frame trestles, to Cleveland Constr. Co., Shelby.

★**Kansas**—Atchison, Topeka & Santa Fe R.R. let contract branch line from Holyrood to Galacia, about 35 mi., to be known as Barton Co. & Santa Fe R.R., to J. R. Scott, Lubbock, Tex.

EXCAVATION AND DREDGING

Proposed Work

O., Warren — Flood Prevention — City passed ordinance to issue $25,000 bonds for straightening and dredging Mahoning River. G. T. Hecklinger, clk.

Minn., Jackson — Ditch — County sold $93,000 bonds to build Judicial Ditches Nos. 38, 48 and 53. P. D. McKellar, co. aud.

Tex., Beaumont—Canal—Beaumont Navigation Dist. will hold election in July to vote on $300,000 bonds for deepening ship canal to 27 or 28 ft. L. J. Black, chn. citizens com., interested.

Tex., El Paso—Irrigation—Land owners in El Paso Valley will create new irrigation district. Z. T. White, J. A. Smith and C. N. Bassett, bd. of dirs.

N. M., Artesia—Drainage—Lake Arthur D. D. will sell $200,000 bonds for drainage. A. C. Keinath, secy.

Cal., El Centro—Irrigation—Imperial Irrigation Dist. voted $2,500,000 bonds for improving system, amount to be expended as follows: $500,000 for raising Volcano Lake Level and strengthening Saise Levee; $100,000 for purchasing 3 locomotives, 80 dump carts, track steam shovels and equipment; $225,000 for constructing Cerro Prieta Canal and establishing rock quarry; $81,000 for Alamo waste gate; $80,000 for controlling gate in main canal and $100,000 for enlarging and repairing main canal. Emergency work is now being done and will be paid for out of this bond issue. F. H. McIver, secy. of dist. C. K. Clarke, ch. engr.

Cal., Los Angeles—Dredging—F. M. Lockwood, mgr. city operating dept., soon receives bids dredging about 116,000 cu.yds. in bay fronting on city tidelands.

Cal., Tracy—Irrigation — State Water Comn., Call Bldg., San Francisco, granted permit to West Side Irrigation Dist. to use 220 cu.ft. per second of waters of Old River, tributary to San Joaquin River, to be diverted at point near Bethany to irrigate 11,377 acres in newly formed district.

Cal., Yreka—Irrigation—State Engr. Dept reported in favor of Scott Valley Irrigation Dist. Land owners will now form district to irrigate about 5558 acres.

BIDS DESIRED

Ind., Rochester—Ditch—Until June 12 by M. Bay, constr. comr. for William Johnson Ditch, about 40 mi. long; dredge work about 18 mi. and tile about 22 mi., ranging from 10 in. to 30 in.

Ill., Beardstown—(Official)—Drainage—Until June 18 by Comrs. Coal Creek Drainage and Levee Dist. for drainage ditches; advertised in this issue.

Ill., Mason City — Drainage — See "Sewers."

Mo., Rockport—Drainage—Until June 14 by B. B. Hurst, engr., North Nishnabotna D.D., Rockport, 2-mi. drainage ditch, 24-ft. bottom, 1 to 1 slope, about 85,000 yd.

Cal., Manteca—Dams—Until June 12 by Bd. Dirs. South San Joaquin Irrigation Dist., auxiliary dams at Woodward reservoir.

N. B., St. John—(Official)—Excavation, etc.—Until June 11 by R. W. Wigmore, comr. water and sewerage, laying 5000 ft. 24-in. c. i. pipe (jointing by city) in Manawagonish Rd., laying pipe (city furnishing pipe and castings on ground), and about 35 cu.yd. rock excavation and 100 cu.yd. earth excavation. About $40,000. Noted May 10.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Ia., Charles City**—Drainage—County let contract open work to L. C. Hanson, Charles City, $14,000; tile Cement Products Co., Spencer, $40,000.

★**Ia., Ft. Dodge**—(Official)—Drainage—County let contract County Drain No. 227 to Anderson & Empire, Marshalltown, $25,031. Noted May 10.

★**Ia., Ft. Dodge** — (Official) — Drain — County let contract Boone Webster Joint Drain No. 2-222 to Hoover Lumber Co., Dallas Center. About $10,000. Noted May 17.

★**Minn., Benson**—(Official)—Ditch—Co. let contracts Judicial Ditch No. 5 as follows: Sects. 30, 31 and 32, open work, to Constr. Co., 206 Alworth Bldg., Duluth, $51,285, $48,578 and $27,042 respectively; Sect. 33, Frederick & Barnard, Minneapolis, $26,292; furnishing tile labor complete, Carey-Kelleher Ditch Co., Pocahontas, Ia., $171,951; tile complete, 153 mi. of 5-in. to 30-in., W. C. Markland & Co., Starbuck, $147,000 on ditch line; bridges to Iowa Bridge Co., 717 McKnight Bldg., Minneapolis, $14,349. Noted May 10.

★**Minn., Luverne** — (Official) — Ditch — County let contract Judicial Ditch No. 3 to Hanley & Flaherty, Vincent, Ia., $20,175. Noted May 17.

★**Minn., Stillwater** — (Official) —Ditch — County let contract Judicial Ditch No. 1 to J. M. Banta, Wyoming, Minn., $16,452. Noted May 17.

★**S. D., Clear Lake**—(Official)—County let contract drainage ditch to F. W. Kruger, Clear Lake, $13,000. Noted May 10.

INDUSTRIAL WORKS

Proposed Work

Mass., Pittsfield—General Electric Co., Oliver Bldg., plans 2 additions, each 3-story, 75 x 150-ft.

N. Y., East Hampton—B. G. Lewis, comr. dept. corrections, Municipal Bldg., New York City, had plans prepared by C. B. Meyers, archt., 1 Union Sq., New York City, for power house, laundry and storage building. About $200,000.

N. Y., New York—Swift & Co., 32 10th Ave., plans 4-story, 100 x 103-ft. cold storage and office building at 14th St. and 10th Ave.

N. J., Irvington—Kraeuter & Co., 18th St., Newark, plans 2 1-story, tool and steel shops, 322 Nye Ave. About $42,000.

N. J., Paterson—F. L. Atherton Machine Co., 17 Market St., manufacturer of textile machinery, plans 4-story, brick and concrete plant, Mill St. and McBride Ave. About $50,000. E. R. Coe, Romaine Bldg., archt.

Pa., Juniata—C. D. Brinser, div. engr. middle division, Pennsylvania R.R., Logan House, soon receives bids for tank shop. About $350,000.

Pa., Phila.—See "Reinforced Concrete."

Pa., Phila.—Fabric Leather Corp., c/o Tooker, Kolff, Cavis Co., 1418 Walnut St., retained Simon & Bassett, archts., 1112 Chestnut St., to prepare plans factory and power plant in Frankford section. About $50,000.

Md., Baltimore—Maryland Shipbuilding Co., Lexington Bldg., plans shipbuilding plant at Bear Creek. Bids will soon be received. About $750,000. C. E. F. Clark, pres.

N. C., Leakesville—Thread Mills Co. having plans prepared by F. P. Sheldon & Sons, engrs., Industrial Trust Bldg., Providence, R. I., for 2-story, 160 x 200-ft. knitting mill. About $160,000.

La., Pickering—W. R. Pickering Lumber Co. will build sawmill plant consisting of 3 buildings, 60 x 200 ft., 40 x 50-ft., and 30 x 80 ft. About $100,000.

La., Shreveport—S. R. Wells, 1333 College Ave., Indianapolis, will build glass factory here. About $75,000.

O., Cincinnati—Diem & Wing Paper Co., 8th and Eggleston Aves., plans 5-story, 31 x 70-ft. garage and power plant. Tietig & Lee, archts., 4th Natl. Bank Bldg., soon receives bids.

★**O., Cleveland**—Atlas Brass Mfg. Co., 332 Lakeside Ave., soon lets contract 3-story factory, Superior Ave. and East 34th St. Christian Schwartzenberg & Gaede, archts., 1900 Euclid Ave., prepared plans. Noted May 10.

O., Cleveland—Ideal Tire & Rubber Co., 503 Union Bldg., retained W. C. Owen & Co., archts., 407 Euclid Bldg., to prepare plans for plant. About $100,000. E. R. Davies, mgr.

O., Cleveland—New York, Chicago & St. Louis R.R. plans 2 freight houses, 78 x 433-ft., and 48 x 272-ft., at 2669 and 2683 East 9th St. About $60,000. E. E. Hart, Cleveland, ch. engr.

O., Cleveland—F. B. Stearns Co., Euclid and Lakeview Sts., plans brick, steel and concrete addition to plant. About $500,000. A. Garfield, archt., 915 Garfield Bldg., preparing plans.

O., Fostoria—Allen Motor Co. had plans prepared by H. Jones, archt., Galion, for 2-story, 100 x 1000-ft. automobile manufacturing plant. About $300,000. W. C. Allen, mgr.

Ind., Hammond—Railway Motor Car Co. plans addition to machine shop and foundry. About $50,000.

Mich., Detroit—Covert Gear Co., Lockport, N. Y., plans factory in Detroit to specialize in heavy 4-piece transmissions. A. A. Gloetzner, mgr. sales, serv. and engr. will have charge of new factory.

Ill., Chicago—Krasberg Mfg. Co., 412 Orleans St., will build 4-story plant. About $150,000.

Ill., Chicago—J. C. Moninger, 900 Blackhawk St., had plans prepared by W. T. Hopper, archt., 2721 South Michigan Ave., rebuilding 5-story factory, 1531 Kingsbury St. About $100,000.

Minn., St. Paul—North American Lumber Co., Hampden and Wabash Aves., purchased site and plans addition. About $50,000.

Kan., Neodesha—Standard Oil Co. of Kansas, 5301 East 9th St., will enlarge and improve its plant here. About $300,000.

Mo., St. Joseph—Battreall Shoe Co., 4th and Jule Sts., having plans prepared by R. Meier, archt., 209 Lincoln Bldg., 7-story, 70 x 160-ft. plant. B. M. Calkins, secy.

Mo., St. Louis—Inland Machine Works, 800 Mound St., plans 2-story plant, main structure 70 x 430 ft. and 4 wings, 70 x 430 ft. each.

Tex., Beaumont—Beaumont Shipbuilding & Dry Dock Co. plans to build shipbuilding plant. J. W. Lind, Houston, pres.

Tex., Benjamin—Brazos-Wichita Copper Co., recently incorporated with $800,000 capital stock, will build 5 concentrating and 1 leaching plant. F. C. Hubbell, 807 Alamo Bank Bldg., San Antonio, pres.

Tex., Galveston—Seaboard Transportation & Shipping Co., Galveston, will build shipbuilding plant. About $300,000. T. J. Anderson, cons. engr. of firm.

Ariz., Glendale—Pacific Creamery Co., Tempe, plans condensing plant here. About $150,000. J. B. Cook, mgr.

Wash., Seattle—F. Waterhouse, Inc., Central Bldg., purchased site on tidelands and plans overseas shipping terminal, including 150 x 1000-ft. wharf and warehouse. About $500,000.

Wash., Spokane—Sperry Flour Co. plans flour mill with 1500 bbls. capacity per day. About $750,000.

Wash., Tacoma—Tacoma Shipbuilding Co., Tacoma, plans enlarging plants.

Ore., Warrenton—American Shipbuilding Co., Spokane, Wash., prepared plans shipbuilding plant here, including 3 shipways. About $400,000.

Cal., Fresno—Willys-Overland Co. plans automobile service plant, Van Ness Ave., 3-story, 100 x 150-ft.; will equip same for machine repair work. F. G. Hood, local mgr.

Cal., Los Angeles—Republic Motor Truck Co., Alma, Mich., plans assembling plant here. First unit will cost $150,000. D. F. Poyer, c/o D. F. Poyer Truck Co., local distributor, arranging for site.

Cal., Los Angeles—Royal Ascot Knitting Mills, Ashmead St., Germantown, Phila., negotiating for site in Los Angeles to establish branch mill. About $250,000.

Cal., Oakland—See "Miscellaneous."

Ont., Toronto—British Supply Co., 608 Excelsior Life Bldg., preparing plans abattoir and packing plant. About $5,000,000.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Mass., Boston**—See "Reinforced Concrete."

★**Mass., New Bedford**—Penrod Mills let contract 3-story, 125 x 150-ft. mill to F. H. Smith, 120 Bway., New York City.

★**Mass., Southbridge**—Hyde Mfg. Co. let contract manufacturing plant to Clark & Lee Co., 201 Devonshire St., Boston.

★**R. I., Pawtucket**—Potter & Johnson Machine Co., 1027 Newport Ave., let contract addition to machine shop to B. F. Smith Co., 22 Mason St., $50,000.

★**N. Y., New York**—Loft Candy Co., Broome and Center Sts., let contract alteration and additions to factory to J. H. Carl Co., 510 1st Ave., $80,000, on percentage basis. Noted Apr. 12.

★**Pa., Grantham**—S. R. Smith & Co. let contract 4-story, 40 x 200-ft. factory to Schmitt & Co., 180 North Penn. Ave., Wilkes-Barre.

Industrial Work (Continued)

★**Pa., Phila.**—American Metal Works, 311 Armat St., let contract plating, finishing and stamping shops, at central plating plant to Roydhouse, Arey Co., 112 North Road St., $100,000.

★**Pa., Phila.**—Nice Ball Bearing Co., 110 South Broad St., let contract factory to W. Steele & Sons Co., 30 South 15th St., $50,000.

★**Pa., Phila.**—Stead & Miller, 4th St., let contract plant to Furness Evans & Co., Franklin Bank Bldg., $100,000. Noted Apr. 5.

★**Del., Wilmington**—Harlan & Hollinsworth Corp., foot of West St., let contract 2 pipe shops and garage to F. A. Havens Co., 815 North 19th St., Phila., $100,000.

★**Md., Baltimore**—Pennsylvania R.R. let contract grain elevator to J. Stewart Co., Inc., Stock Exchange Bldg., Phila., $4,000,000.

N. C., Reidsville—American Tobacco Co., 111 5th Ave., New York City, will build 63 x 196-ft. addition to factory here, including boiler room. About $125,000. Work will be done under supervision of company's engineering dept. A. C. Ehrlich, Reidsville, ch. engr.

★**O., Cleveland**—C. Greve, 1840 East 93rd St., let contract factory to G. Rutherford, 2160 East 18th St., $80,000.

★**O., Cleveland**—Templars Motor Car Co., Rockefeller Bldg., let contract factory to Hunkin Conkey Constr. Co., Cuyahoga Bldg., $125,000.

★**O., Warren**—See "Structural Steel."

★**Wis., Milwaukee**—Armour Grain Co., 208 South La Salle St., let contract addition to grain mill to Fostor Constr. Co., Caswell Bl., Milwaukee, $50,000.

★**Kan., Salina**—Weber-Freeman Milling Co., Farmers Natl. Bank Bldg., let contract mill to Lehrack Constr. & Engr. Co., 725 Gloyd Bldg., Kansas City, Mo., $200,000.

★**Neb., Omaha**—See "Reinforced Concrete."

★**Mo., Kansas City**—Triangle Milling Co. let contract 1st unit of plant at Woodland and Armour Sts. to Wimmer Constr. Co., Victoria Bldg., St. Louis. About $125,000.

BUILDINGS

Proposed Work

Me., Waterville—Theater—Maine Theaters, Inc., c/o A. S. Block, Rockland, having plans prepared by J. Salmonson, archt., 36 Bromfield St., Boston, 1-story, 75x90-ft., brick. About $50,000. Bids will soon be received.

R. I., Woonsocket—School—Bd. Educ. having plans prepared by W. F. Fontaine, archt., Federal Bldg., for Fairmount School, $50,000 available. Noted May 31.

Conn., Ansonia—Bank—Ansonia Natl. Bank, 165 Main St., had plans prepared by Mowbray & Uffinger, archts., 56 Liberty St., New York City, 1-story, 45 x 60-ft. About $50,000.

Conn., Norwalk—Grammar School—Bd. Educ. having plans prepared by P. Sunderland and E. Watson, archts., Library Ave., Danbury, 2-story, 60 x 112-ft. About $50,000.

N. Y., Astoria—(Long Island City P. O.)—Parochial School—St. Joseph's Congregation soon receives bids, 4-story, 68 x 104-ft. brick and steel. Grand and 14th Aves. About $60,000. F. J. Berlenbach, 260 Graham Ave., Brooklyn, archt.

N. J., Garwood—School—Bd. Educ. having plans prepared by J. N. Pierson & Son, archts., Raritan Bldg., Perth Amboy, 2-story. About $60,000.

N. J., Hoboken—Schools—Bd. Comrs. will sell $679,176 bonds to build schools. D. A. Haggerty, city clk.

N. J., Newark—Theater and Hall—A. W. Moore, 22 Green St., plans, 2-story, 125 x 150-ft. About $65,000. H. Baechlin, archt., 665 Broad St., soon receives bids.

N. J., Trenton—See "Streets and Roads."

Pa., Archbald—High School—J. Murphy, secy. bd. educ., receiving bids about June 18, 2-story addition. J. J. Howley, Traders Bank Bldg., Scranton, archt.

Pa., Harrisburg—Schools—Bd. Educ., 121 Chestnut St., retained C. H. Lloyd, Telegraph Bldg., T. H. Hamilton, Patriot Bldg., and M. I. Kast, 222 Market St., archts., to prepare plans building 2 high schools, altering and constructing addition to high school, and addition to grade school. Estimated costs, $200,000, $75,000, $75,000 and $80,000 respectively.

Pa., Indiana—Memorial—Indiana Co. has plans prepared by J. T. Simpson, archt., Essex Bldg., Newark, N. J., 3-story, 60 x 80-ft. Soldiers Memorial Building. About $80,000.

Pa., Phila.—City will rebuild park buildings in Woodside Park recently destroyed by fire. About $200,000. C. Albright, city engr.

Pa., Scranton—Bank—3rd Natl. Bank, 118 Wyoming Ave., having plans prepared by E. Langley, archt., Scranton Life Bldg., 1- and 3-story. About $70,000.

Del., Wilmington—Home—B. P. O. E., Wilmington Lodge No. 307, will build at 1119 Market St., 5-story. J. D. Thompson, Jr., archt., Ford Bldg., prepared plans.

W. Va., Moundsville—(Official)—Bd. Educ. receiving bids in about 3 weeks for high school to cost $125,000, and grade school to cost $40,000. E. B. Frazheim, Schmulbach Bldg., Wheeling, archt. Noted May 24.

Fla., Vero—Club House and Beach Resort—G. H. Burrows Development Co., 526 Guardian Bldg., having plans prepared by Howell & Thomas, archts., 2032 Euclid Ave., Cleveland, 5- or 6-story. About $1,000,000. G. H. Buroughs, mgr.

La., Alexandria—University—Leland University retained Favrot & Livaudais, archts., Perrin Bldg., New Orleans, to prepare plans. About $100,000.

La., Morgan City—School—City voted $60,000 bonds to build school.

O., Alliance—Club and Store—Fraternal Order of Eagles, 647 South Liberty Ave., had plans prepared by W. W. Matchett, archt., Main St., 4-story, 40 x 110-ft., on Main St. About $100,000.

O., Barberton—Grade School—Bd. Educ. rejected bids. May not receive new bids until spring 1918. About $60,000. Harpster & Bliss, Nantucket Bldg., Akron, archts. Noted Apr. 26.

O., Cincinnati—Grade School—C. W. Handman, bus. mgr. bd. educ., 511 West Court St., soon receives bids 3-story, 75 x 130 x 215-ft., "L" shaped. About $200,000. S. Hannaford & Sons, Hulbert Blk., archts.

O., Hubbard—High and Grade School—Bd. Educ. had plans prepared by Miller & Son, archts., Dollar Bank Bldg., Youngstown, 2-story. About $110,000. A. J. Hammond, secy. Noted Apr. 19.

O., Lorain—Clubhouse—Aerie 343 F. O. E. will build. About $65,000.

O., Marion—Hotel—Fireproof Hotel Co. will receive bids about June 15, 3-story, 60 x 112-ft. Cost, $125,000. Thies & Thies, Davies Bldg., Dayton, archts. and engrs.

O., Mt. Vernon—Infirmary—Ohio Bd. of Administration, c/o T. E. Davey, Oak and 9th Sts., Columbus, soon receives bids 2-story. About $50,000. Richards, McCarty & Bulford, Hartman Bldg., Columbus, archts.

O., Plymouth—High and Grade School—Bd. Educ. had plans prepared by Althaus & Jones, archts., Market Bldg., Mansfield, 2-story addition. About $50,000. C. S. Walker, clk.

O., St. Paris—Grade and High School—Jackson Twp. plans 2-story, 130 x 160-ft. About $75,000. C. Sheets, archt., 319 New 1st Natl. Bank Bldg., Columbus, soon receives bids.

O., Toledo—Home—Lutheran Orphans' and Old Folks' Home, Seaman near Van Buren St., plans 3-story, 58 x 104-ft. About $50,000. T. Huber, archt., 751 Spitzer Bldg. soon receives bids.

Ind., Decatur—High School—R. D. Myers, pres. bd. educ., receiving bids in June, 2-story, 70 x 160-ft. About $100,000. O. Hoffman, Studebaker Bldg., Decatur, archt.

Ind., New Palestine—High and Grade School—Sugar Creek Twp. plans, 2-story. About $50,000. W. H. Garns, 818 Fletcher Trust Bldg., Indianapolis, archt.

Ill., La Salle—Hotel—F. W. Malthiessen plans 3-story, 68 x 120-ft. Marshall & Fox, archts., 706 Lincoln Pkway., Chicago, soon receives bids.

Wis., Ashland—Hospital—Ashland General Hospital c/o A. T. Pray, had plans prepared by H. Wildhagen, archt., Masonic Temple, 3-story, 42 x 100-ft. About $65,000.

Wis., Manitowoc—Club—B. P. O. Elks receiving bids about June 15, 2-story, 60 x 90-ft. About $50,000. L. E. Wedertz, exalted ruler, 908 St. Claire St., chn. of invest. com.; E. F. Miller, Dempsey Bldg., archt.

Ia., Ames—Armory—State Bd. Educ., Elkader, had plans prepared by Proudfoot, Bird & Rawson, archts., 810 Hubbell Bldg., Des Moines, 1-story, 200 x 400-ft., on Campus of Iowa State College. About $125,000. D. D. Murphy, Elkader, pres. Noted May 17.

Ia., Emmetsburg—Hotel—Hotel Co. having plans prepared by Sawyer & Watrous, archts., 401 Hippe Bldg., Des Moines, 3-story, brick and rein.-con. About $50,000. D. G. McCarty, secy.

Ia., Merrill—School—G. Simpson, secy. school bd., soon receives new bids, former bids rejected. G. L. Lockhart, 391 Endicott Bldg., archt.

Minn., Annandale—School—Ind. School Dist. No. 71 rejected bids, 2-story, 110 x 154-ft. New bids about March 1918. Cost $50,000. C. H. Parsons, 601 Phoenix Bldg., Minneapolis, archt.

Minn., Minneapolis—See "Reinforced Concrete."

Minn., Motley—School—Bd. Educ. retained W. L. Alban, archt., 347 Endicott Bldg., St. Paul, to prepare plans. Bonds were recently voted for work.

Minn., Princeton—High School—City voted $50,000 bonds to build high school. A. B. Gramer, clk.

Minn., St. Paul—Hotel—A. J. Cameron, Sherman Hotel plans. About $400,000.

Minn., Virginia—School—City voted $350,000 bonds to build school. C. E. Nystrom, archt., Palladio Bldg., Duluth, preparing plans. Noted May 10.

Kan., Ft. Scott—School—Bd. Educ. plans 2-story. About $80,000. W. Taussig, archt., Oklahoma, receives bids about June 25. Noted May 24.

Kan., Kansas City—Auditorium—City had plans prepared by Rose & Peterson, archts., Barker Bldg., 3-story, 125 x 130-ft. About $125,000. Noted May 24.

Neb., Clay Center—Court House—County will receive bids about July 1, 60 x 90-ft. About $72,000. W. F. Gernandt, Keeline Bldg., Omaha, archt.

N. D., Fargo—Bank and Office—Northwestern Savings & Loan Bank plans, 2-story, 50 x 140-ft. About $65,000. W. F. Kurke, archt.

N. D., Lawton—School—Bd. Educ. had plans prepared by I. Kasbo, archt., Devils Lake.

N. D., Minot—Hotel—Million Dollar Hotel Co., Inc., plans 9-story, 74 x 146-ft. About $450,000. G. H. Hoffman & Co., archts., 17 West College St., Rochester, Minn., receiving bids in August.

Mont., Butte—Hospital—St. James Hospital plans to build addition. About $75,000. W. D. Gillespie, archt.

Mont., Great Falls—High School—City to hold election June 23 to vote on $125,000 bonds to build junior high school. W. H. Harrison, clk.

Mont., Missoula—Theater—Jensen & Von Herberg, Seattle, plan. About $125,000.

Mo., St. Louis—Y. M. C. A. plans 3-story building. About $100,000. F. L. Williams, 3973 West Belleplaine Pl., chn. A. B. Groces, archt., 314 North 4th Ave., soon receives bids.

Okla., Bartlesville—Hospital—County voted $50,000 bonds to build hospital. J. C. Mitchell, clk.

Okla., Oklahoma—Temple—Masonic Orders plan. About $250,000. Puckey & Jenkins, Chicago, archts.

Colo., Denver—High School—School Bd. plans to issue bonds to build high school.

Wash., Bremerton—Theatre—M. Umbrecht, archt., Arcade Bldg., Seattle, soon receives bids motion picture theatre for Osman Amusement Ct. About $75,000. Noted May 24.

Cal., Esparto—See "Reinforced Concrete."

Cal., Los Angeles—Lodge—Elks Lodge plans, 10-story, Olive St. About $750,000.

Que., Montreal—School—W. O'Meara, 87 St. Catherine St., W., retained an architect to prepare plans for a brick and stone school for Bd. Educ. About $85,000.

BIDS DESIRED

Me., Portland—(Official)—School—Until June 14 by F. A. Tompson, archt., 537 Congress St., for brick addition, Spring and Oak Sts., for Maine School for Deaf.

Conn., Waterbury—(Official)—High School—Until June 11 by J. J. Fitzgerald, clk. bd. educ., brick rein.-con., granite and limestone, Grove and Pine Sts. Cost between $400,000 and $500,000. L. A. Walsh, archt. Noted May 17.

N. Y., Albany—Parish House—Until June 26 by Loth & White, archts., 130 State St., 2-story, 53x102-ft., brick and concrete, Central Ave., between Lexington and Robin Ave. Noted May 31.

N. Y., Beacon—(Official)—Hospital—Until June 12 by J. M. Carter, supt. prisons, Capitol, Albany, for addition to building for Women's Group at Mattewan State Hospital, Beacon.

N. J., Bayonne—School—Until June 14 by Bd. Educ. for 197x225-ft., brick and steel school in 3rd Ward. About $300,000. D. J. Anderson, 424 Ave. E, archt.

Buildings (Continued)

N. J., Newark — (Official) — Theatre, Store, Office and Lodge—Until June 8 by H. Baechlin, archt., 665 Broad St., for A. W. Moore, 22 Green St., owner. About $65,000. Noted May 31.

N. J., Weehawken—School—Until June 13 by West New York Bd. Educ., addition to School No. 5. N. Kuhlke, clk. W. Mayer, Jr., 711 Bline St., West New York, archt. Noted May 10.

Md., Baltimore—Theater—Until June 15 by H. W. Webb, Pkway Theatre Co., Fidelity Bldg., for addition. About $50,000. T. W. Lamb, 644 8th Ave., New York City, archt.

Mich., Monroe—School—Until June 11 by Bd. Educ. for Christiancy School. H. W. Wachter, 908 Nicholas Bldg., Toledo, O., archt. Noted Apr. 5.

Ia., Council Bluffs—School—Until June 9 by R. H. Williams, secy. bd. dirs., school on 2nd Ave. J. C. Jensen, 305 Bway., archt.

Ia., Ft. Madison—School—Until June 25 by Bd. Educ., 2-story, brick, stone and terra cotta. About $50,000. Owen & Payson, 202 Reliance Bldg., Kansas City, Mo., archts. Noted May 10.

Ia., Martinsburg—High and Grade School—Until June 20 by E. E. Cook, secy. bd. dir. independent school dist. G. M. Kerns, Commercial Club Bldg., Ottumwa, archt.

Minn., Deerwood.— Sanatorium — Until June 12 by Sund & Dunham, archts., 514 Essex Bldg., Minneapolis, for Crow Wing and Aitkin Cos.

Minn., Riverton—Grade and High School—Until July 1 by H. J. Smith, clk. school bd. A. Puck, 617 Torrey Bldg., Duluth, archt.

Neb., Franklin—(Official) — School—Until June 12 by Bd. Educ. School Dist. No. 33. Berlinghof & Davis, Security Mutual Bldg., Lincoln, archts.

S. D., Wessington Springs—High School—Until June 14 by C. H. Gall, clk. bd. educ. Edwins & Edwins, 911 N.W. Bldg., Minneapolis, archts. Noted May 31.

N. D., Wolford—School—Until June 20 by J. A. Gardner, pres. bd. educ. J. A. Shannon, Jamestown, archt.

Ore., Eugene — (Official) — Dormitory — Until June 13 by Bd. Regents, University of Oregon, for women's dormitory. Lawrence & Holford, 1021 Chamber of Commerce Bldg., Portland, archt.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★Mass., Boston—Theater—New Columbia Co., c/o M. Loew, 415 Washington St., let contract remodeling to Fleischman Constr. Co., 7 West 45th St., New York City and 294 Washington St., Boston, $250,000.

★Mass., Milton—Girls' School—Milton Academy, c/o W. B. Furber, let contract, 3-story, to Mitchell & Sutherland Co., 166 Devonshire St., Boston.

★Mass., Northbridge — Office — Whiting Machine Co. let contract to Stone & Webster Engr. Corp., 147 Milk St., Boston, $60,000.

★R. I., Providence—Hall, etc.—Providence College let contract, 68 x 228-ft. brick hall, 62 x 120-ft. auditorium and 72 x 172-ft. gymnasium, Easton St. to C. B. Maguire Co., 1205 Turks Head Bldg. Noted May 3.

★N. J., Bogota—School—Bd. Educ. let contract to J. E. Vroman Co., 140 4th St., Union Hill, $50,000.

N. J., Hoboken—School—Bd. Educ. received low bid Public School No. 3, Adams and 5th St., from J. Wayland, Garden St., $371,150. Noted May 17.

★Pa., Allentown — Hospital — Sacred Heart Hospital let contract brick addition to W. H. Brangewere & Co., Allentown, $180,000.

★Pa., Coatesville—Convent and Parochial School—St. Stanislaus Polish Congregation let contract, 2-story, 36 x 118-ft., to A. Ziornicke, 1632 Hunting Park Ave., Phila.

★Pa., Coatesville—Bank and Store—Natl. Bank of Chester Valley let contract to W. J. Elliott, Coatesville, $90,000.

★Pa., Scranton—Manual Training School—O. S. Johnson Institute, c/o R. B. Keller, Co. Savings Bank Bldg., let contract, alterations and addition, to Freda & Carlucci, 536 East Drinker St., Dunmore. $75,000.

★W. Va., Charleston — Institutional Church and Homes—Union Mission Settlement, Lovell and Clendennin Sts., let contract to Acme Constr. Co., Fleetwood Hotel, $50,000.

★W. Va., Ripley—Court House—Jackson Co. let contract remodelling courthouse to Prescott Constr. Co., Parkersburg, $67,133. Noted Jan. 13.

★Ga., Macon—Auditorium—City let contract to W. J. Beeland, Macon, $91,669. Noted May 24.

★O., Columbus—Home—Elks Lodge, c/o J. G. Price, 1356 Neil Ave., let contract addition to R. H. Evans & Co., Columbus Savings & Trust Bldg., $50,000.

★O., Massillon—Nurses' Home—Massillon City Hospital let contract to A. F. Wendling Co., McClymond Bldg., $50,000. Noted May 17.

★O., Toledo—School—Bd. Educ. let contract Sherman Ward School to H. J. Spieker Co., 409 Michigan St., $335,417.

★Mich., Cadillac — (Official) — School — Henderson Twp. let contract consolidated school to Cadillac Cabinet & Constr. Co. Noted May 10.

★Mich., Saginaw—Convent—Sisters of Mercy let contract, on Bridge St. hill, to J. McNabb & Son. About $200,000.

★Ia., Ames—School—Bd. Educ. let contract to R. H. Fisher, Cedar Rapids.

★Ia., Boyden—School—Bd. Educ. let contract to Standard Constr. Co., 1101 Plymouth Bldg., Minneapolis.

★Ia., Mason City—Church—1st Christian Congregation let contract to W. O'Neil & Son, Faribault, Minn., $80,000.

★Minn., Lanesboro—School—Bd. Educ. let contract to L. P. Jorgenson, 1930 St. Anthony Ave., St. Paul, $52,735.

★Kan., Hoxie—Court House—County let contract to G. Cope, 4900 Oak St., Kansas City, Mo. $60,000.

★Kan., Wichita—Home—Kansas Masonic Assoc. let contract to Dieter & Wenzel, 230 West Lewis St. $250,000.

★Neb., Omaha — Clubhouse — Athletic Club, Douglas St., let contract to Selden-Breck Constr. Co., Fullerton Bldg., St. Louis, Mo. About $400,000.

★Neb., Omaha—School—Bd. Educ. let contract Train School, 6th and Hickory Sts., to Houghton Sons & Ansell, $50,000.

★S. D., Rapid City—High School—School Bd. let contract to H. N. Leighton Co., 127 South 10th St., $78,965.

★Mont., Deer Lodge—High School—Bd. Educ. let contract, brick and stone, to Barclay & Murphy, Butte, $53,480.

★Cal., Oakland — Mausoleum — Pacific Mausoleum Co. let contract to Orange Co. Engr. & Constr. Co., Santa Ana, $100,000.

★Que., Montreal—Theatre—J. S. Jacobs, Jacobs Bldg., let contract to Gilletz & Co., 206 Urbain St. About $55,000.

FEDERAL GOVERNMENT WORK

Proposed Work

N. Y., New York—Dredging—U. S. Engr. Office, 710 Army Bldg., 39 Whitehall St., rejected bids, Harlem River. Noted Apr. 5.

Tenn., Athens—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., rejected bids. Noted May 24.

Minn., Duluth—Dredging—U. S. Engr. Office, Duluth, rejected bids, Duluth-Superior Harbor. Noted May 31.

Mo., St. Louis—Levee Work—Mississippi River Comn., 1311 International Life Bldg., rejected bids constructing about 259,100 cu.yds. earth work in Sny Island Levee, D.D. Noted May 3.

Tex., Dallas—Iron and Steel—U. S. Engr. Office, Dallas, rejected bids, Apr. 30, furnishing iron and steel for Lock and Dam No. 3, Brazos River. Noted Apr. 5.

BIDS DESIRED

Mass., Boston—Storehouse—Until June 11 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., rein.-con. storehouse at Navy Yard. Noted May 17.

N. Y., New York—Dredging—Until June 14 by U. S. Engr. Office, Room 710, Army Bldg., 39 Whitehall St., dredging Hudson River Channel, New York Harbor.

N. J., Vineland—Post Office—Until June 27 by J. A. Wetmore, superv. archt., treas. dept., Wash.

N. C., Chapel Hill—Post Office—Until June 15 by J. A. Wetmore, superv. archt., treas. dept., Wash.

N. C., Wash Woods—Coast Guard—Until June 16 by Navy Dept., U. S. Coast Guard Headquarters, Wash., for Coast Guard Station No. 166; advertised in this issue.

Fla., Pensacola—Observation Tower—Until June 11 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., for erection at Navy aeronautic station (postponed from May 21). Noted May 10.

Ill., Hoopeston—Post Office—Until July 12 by J. A. Wetmore, superv. archt., treas. dept., Wash.

Mo., Butler—Post Office—Until June 22 by J. A. Wetmore, superv. archt., treas. dept., Wash.; advertised in this issue.

Ark., Prescott—Post Office—Until June 28 by J. A. Wetmore, superv. archt., treas. dept., Wash.

Tex., San Antonio—Nurse Corps Dormitory—Until June 11 by Constr. Quartermaster, Ft. Sam Houston, for construction at Ft. Sam Houston.

Wash., Bremerton—Dock—Until June 25 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., shipbuilding dock at Puget Sound Navy Yard.

Cal., San Francisco—Lumber—Until June 16 by Depot Quartermaster, U. S. Army, Ft. Mason, San Francisco, furnishing 297,000 ft. lumber at Ft. Mason.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

Conn., New London—Wharf—U. S. Coast Guard, Wash., received bids pile and timber wharf at Coast Guard Academy from A. Scott Co., 292 Pequot Ave., New London, $14,930, time 90 days; Robins-Ripley Co., New York City, $14,452, time Sept. 30. Noted May 10.

★Mass., Boston—Coal Weighers—Bureau Yards and Docks, Navy Dept., Wash., let contract, furnishing at Navy Yard, to R. H. Beaumont Co., $9200. Noted May 31.

Mass., Southbridge—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids, (a) limestone, (b) sandstone, from J. J. Roberts, 4 Wall St., Worcester, (a) $77,421, (b) $78,208; W. H. Fissell Co., 328 Bway., New York City, (a) $86,329, (b) $90,329; H. Ball, Southbridge, (a) $79,360. Noted Apr. 26.

Pa., Berwick—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids from Hagen Lumber Co., Mill St., Scranton, $44,913; Berwick Lumber & Supply Co., Berwick, $49,650; B. F. Caviston, Carbondale, $54,000. Noted Apr. 26.

★Pa., Phila.—Storehouse—Bureau Yards and Docks, Navy Dept., Wash., let contract to Industrial Engr. Co., 30 Church St., New York City, $508,175. Noted May 31.

★Md., Indian Head—Foot Bridge—Bureau Yards and Docks, Navy Dept., Wash., let contract, erecting at Naval Proving Ground, to Ketler Elliott Erection Co., $35,253. Noted Apr. 26.

Wash., D. C.—Bridge Dist. Comrs., Dist. Bldg., received bids 7-span steel plate girder highway bridge on Bennings Rd., (a) excavation, (b) filling in approach walls, (c) filling for low level roads, (d) paving on low level roadway, (e) approaches, abutments and piers, (f) bridge, from Snare & Triest, Woolworth Bldg., New York City, (a) 70c., (b) $1, (c) $1, (d) $1.25, (e) $73,500, (f) design a, $85,000, design b, $78,000, asphalt paving on bridge and approaches $1.50 per sq.yd. concrete base for paving on approaches $1 per sq.yd.; concrete in walls, $10.70 per cu.yd.; concrete in bridge $14; concrete jacketing on bridge and piers, $20 per cu.yd.; concrete in abutments and piers, $8.30 per cu.yd.; reinforcing steel in bridge, 5c. per lb.; structural steel in bridge, etc., 6.5 per lb.

Wash., D. C.—School—Dist. Comrs., Dist. Bldg., received bids addition to School No. 170, from Skinker & Garrett, 1416 F St., $48,340, alternate A, add $40, B add $1560, C deduct $10, D add $2200; Melton Constr. Co., Real Estate Trust Bldg., $39,995, alternate A, add $50, B add $1310, C add $188, D add $2886; W. E. Mooney, Evans Bldg., $49,529, no alternate proposition. Noted May 24.

Wash., D. C.—Towers—Bureau Yards and Docks, Navy Dept., received bids constructing 3 600-ft. steel towers at Naval Radio Station, El Cayey, P. R., from Milliken Bros., Inc., Milliken, S. I., New York; U. S. Steel Products Co., 30 Church St., New York City, Pittsburgh-Des Moines Steel Co., 400 Ross St., Pittsburgh Penn Bridge Co., Bond Bldg., P. J. Carlin Constr. Co., 1123 Bway., New York City; McClintic-Marshall Co., 1421 Chestnut St., Phila.; Hamilton & Chambers Co., 29 Bway., New York City. Noted May 10.

Va., Norfolk—Traveling Cranes—Bureau Yards and Docks, Navy Dept., Wash., received bids furnishing for foundry for Navy Yard, from Cleveland Crane & Engr. Co., Wickliffe, O.; Penn Bridge Co., Bond Bldg., Wash., D. C.; Whiting Foundry & Equipment Co., Harvey, Ill.; Niles-Bement-Pond Co., 111 Bway., New York City. Noted May 24.

Ala., Jasper—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received bids (a) limestone, (b) sandstone, from A. Blair, Hill Bldg., Montgomery, (a) $94,159; W. H. Fissell & Co., 1328 Bway., New York City, (a) $115,900, (b) $113,900. Noted Apr. 26.

Wis., **La Crosse**—Heating System—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids heating system in post office, from Noland-Clifford Co., Newport News, Va., $8496; W. Wilby, Selma, Ala., $8750; Baker-Niebuhr Co., La Crosse, $9937. Noted May 24.

★**Kan., Girard**—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., let contract to W. D. Lovell, 1415 8th St., S. E., Minneapolis, $47,875. Noted May 31.

★**Tex., El Paso**—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., let contract to W. H. Maxwell, Lakeside, $283,890. Noted May 31.

Wash., Bremerton — Cranes — Bureau Yards and Docks, Navy Dept., received bids, May 28, furnishing 4 15-ton travelling, revolving, hammer-head shipbuilding cranes for delivery at Puget Sound Navy Yard: (a) price for 4 cranes, delivered and erected complete; (b) same with bidder's modification in design; (c) deduct for omitting 1 crane from (a); (d) deduct for omitting 1 crane from (b); E. F. Perry Mfg. Co., Grand Central Terminal Bldg., New York City, (b) $232,000, 380 days, (d) $57,500, 30 days; McMyler Interstate Co., Stop 27, A. B. C. Electric Ry., (b) $230,727, 310 days, (d) $55,540; Penn Bridge Co., Bond Bldg., Wash., D. C., (a) $274,792, (c) $51,652, 12 months. Noted May 17.

MISCELLANEOUS

Proposed Work

Dam—Westville, Conn.—See "Reinforced Concrete."

Garbage Incinerator—Long Island City, N. Y.—City has had plans prepared. Hopkins Ave., near Pierce Ave. About $55,000.

Refrigerating Equipment—Thiells, N. Y.—(Official)—F. A. Vanderlip, pres. bd. mgrs. Letchworth Village, 7 Wall St., New York City, rejected bids. Noted May 17.

Sprinkling Carts—Asbury Park, N. J.—City Comn. plans to purchase 8 motor-propelled street sprinkling carts. About $20,000. H. B. White, clk.

Garbage Disposal Plant—Newark, N. J.—Bd. Works will purchase site on Ave. A and Vanderpool St. to build plant of 300 tons daily capacity. About $400,000.

Park—Morrisville, Pa.—Boro. plans to build. L. R. Bond, boro. solicitor.

Lumber Docks, etc.—Baltimore, Md.—Weyerhaeuser Timber Co., Tacoma, Wash., purchased 50-acre site on Anne Arundel Co. shore of Patapsco River, and plans docks, sheds and dredge channel for handling lumber shipped from Tacoma by way of Panama Canal to Baltimore.

Transmission Line—Laurinburg, N. C.—Palmetto Power & Light Co. plans, from here to point on Wateree River, about 7 mi. from Camden, to receive power from Wateree Power Co. Preliminary surveys being made. C. E. Johnson, pres.

Oil Station—Charleston, S. C.—Gulf Refining Co., Frick Annex, Pittsburgh, purchased 17 acres on Cooper River, and plans oil station, including storage tanks, piers, wharves, etc.

Elimination Grade Crossings—Columbus—Ohio—Cleveland & Mahoning Valley R.R. plans to issue $2,851,800 preferred stock for improving grade crossings. R. T. Sullivan, Youngstown, mgr. rys.

Park Improvements—Toledo, O.—City will sell $50,000 bonds, June 20, for park improvements. W. Steward, dir. finance.

Retaining Walls—Kankakee, Ill.—Momence Twp. will soon let contract 2 retaining walls, 1 180-ft. to protect Forberger Bridge and 1 60-ft. for Hayhurst Bridge.

Transmission Line—Centerville, Ia.—Centerville Light & Traction Co. purchased several small central station companies in vicinity of Centerville and will erect 13,200-volt transmission line to connect them with power station. F. S. Payne, pres. and mgr.

Dam—Rochester, Minn.—City voted $650,000 bonds to build water power dam to furnish electricity for city. M. G. Holmes, supt.

Transmission Line—Vinland, Kan.—City plans to obtain electric power from municipal plant at Baldwin, 5-mi.

Park—Dillon, Mont.—Company being organized to construct amusement park here. About $50,000.

Park Improvements—Tulsa, Okla.—See "Streets and Roads." Noted Apr. 26.

Subway—Denver, Colo.—City and Union Pacific R.R. plan, on 38th St. H. F. Merryweather, city engr., R. L. Huntley, 15th and Dodge Sts., Omaha, Neb., ch. engr.

Seawall—Seattle, Wash.—City plans on Railroad Ave., from Madison to Pike Sts., including filling, planking, etc. About $250,000. A. H. Dimock, city engr.

Wharf—Seattle, Wash.—See "Industrial Works."

Port Improvements—Vancouver, Wash.—City voted in favor of plans for port improvements, including extension of 11th St., fill, and sidetracks. B. L. Dorman, city engr.

Transmission Line—Marshfield, Ore.—Oregon Power Co. will construct extension, from Marshfield to Coquille. About $25,000. A. L. Martin, mgr.

Shipways—Warrenton, Ore.—See "Industrial Works."

Steam Shovels, etc.—El Centro, Cal.—See "Excavation and Dredging."

BIDS DESIRED

Timber Groynes—Brooklyn, N. Y.—Until June 14 by C. Ward, pres. dept. parks, Municipal Bldg., repairs to 6 timber groynes at Dreamland Park, Coney Island.

Docks—Buffalo, N. Y.—Until June 12 by Comr. Pub. Wks., Room No. 3, Municipal Bldg., improving along Bird Island Pier, about 1000 ft. rock filled timber crib to be placed in strong current of Niagara River, crib surmounted with concrete block and mass concrete wall; extension of about 600 ft. 8½-ft. submerged sewer of concrete or wood stave pipe in rear of such wall; construction of about 70 ft. similar crib dock on harbor side of such pier and of about 130-ft. wood pile dock with rein.-con. top.

Incinerator Plant—New York, N. Y.—Until June 11 by M. M. Marks, boro. pres., for labor and materials required for installing refuse incinerator plant in Washington Market building, Fulton, West, Vesey and Washington Sts.

Pipes, etc.—New York, N. Y.—Until June 11 by R. Adamson, fire comr., furnishing, delivering and installing subsidiary pipes and upper parts of fire alarm posts and delivering and installing twin posts and bases for fire alarm posts for Bronx Improv.

Cedar Railing, etc.—Atlantic City, N. J.—Until June 13 by Bd. Freeholders, for furnishing 5700-ft. cedar railing and mid rail lengths and 235 posts for Tuckahoe River bridge. A. H. Nelson, co. engr.

Cement, etc.—Newton, N. J.—Until June 12 by Town Com. for furnishing 2600 bbls. Portland cement, 6000 sq.yds. reinforcement, 600 tons sand and 4200 ft. elastite. H. Snook, engr.

Chimney—Sibley, Ia.—See "Reinforced Concrete."

Dikes—Topeka, Kan.—Until June 15 by Pub. Utilities Comn. for 1 pile and stone dike and 1 earth dike, on south bank of Kansas River on State Hospital grounds. T. J. Strickler, engr.

Harbor Improvements—Newport, Ore.—(Official)—Until June 25 by County, improving Bar Harbor, jetties, dredging, etc. About $836,000. Noted May 17.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Elimination Grade Crossings—Buffalo, N. Y.**—Lehigh Valley R.R. let contract, Tifft St. and Hamburg Turnpike to Peckham Constr. Co., Buffalo.

★**Pier and Shed—Clifton, S. I., N. Y.**—(Official)—Staten Island Development Corp. let contract to Anderson & Wheeler, Inc., West New Brighton, S. I., $325,000.

Tracks—New York, N. Y.—Pub. Ser. Comn. 120 Bway. received low bids installing tracks for Pelham line from Terry & Tench, Grand Central Terminal, $375,000 and Kauffman & Garcey, 51 Chambers St., $394,782. These are unofficial totals. Noted May 24.

★**Bulkhead and Platform—Port Ivory, S. I., N. Y.**—(Official)—Proctor & Gamble Mfg. Co., 100 Broad St., New York City, let contract, in connection with improvements to Port Ivory plant, to Anderson & Wheeler, Inc., West New Brighton, S. I., $45,000.

Dock Wall—Troy, N. Y.—(Official)—Harbor & Dock Comn., City Hall, received low bid from Great Lakes Dredge & Dock Co., 27 Lumber Dist., Albany, $380,828. Noted May 17.

★**Coaling Tower—Chicago, Ill.**—Swift & Co., Union Stock Yards, let contract, Exchange and Justine Sts., to W. G. Nelson, 35 South Dearborn St., $17,000.

★**Fill—Chicago, Ill.**—(Official) — Pittsburgh, Cincinnati, Chicago & St. Louis Ry. let contract about 600,000 cu.yds. sand filling in connection with elevation of tracks between 49th and 75th Sts., to P. T. Clifford & Son, Valparaiso, Ind.

Retaining Wall—St. Paul, Minn.—See "Streets and Roads."

★**Tunnel—Jerome, Ariz.**—United Verde Extension Mining Co. let contract drainage and haulage tunnel to Potter Constr. Co., $500,000.

★**Fill—Tacoma, Wash.**—Co. Comrs. let contract making fill on 11th St. to Tacoma Dredging Co., Tacoma, $81,225.

★**Wharf, etc.—Oakland, Cal.**—Howard Co. let contract wharf and warehouse to Tibbits-Pacific Co., 16 California St., San Francisco, $65,000.

★**Concrete Lining—San Raefael, Cal.**—See "Reinforced Concrete."

Railway Extension in Mexico on a large scale is projected by the Department of Communications and Public Works. The line on the Isthmus of Tehuantepec will be extended from Santa Lucretia to Merida, Yucatan. This project forms the connecting link in the line from Ciudad Juarez, on the American border, to Merida. Yucatan will finance the new line in conjunction with various electric lines connecting with it. The right-of-way formerly was controlled by a concession to foreign capital, but the concession was declared forfeited, as the holders failed to complete the work according to its terms. Another projected line will connect the Atlantic and Pacific coasts, traversing the country from Tampico to San Blas. The Southern Pacific company has been notified that it must continue its line from Compostela to Guadalajara. At Bahia Espiritus, Quintana Roo, a deep-water harbor is to be made at a cost of $5,000,000 gold. A railway outlet will be provided by a 100-mi. extension of the United Railroads of Yucatan.

The Army Mobilization Camps to be equipped by the U. S. Government will include the following: Each camp will consist of 2000 1- and 2-story frame buildings, water and sewage systems, roads and walks, lighting systems and plants, refrigerating plants, sterilizing plants, construction of temporary buildings required for shelter of troops, animals and supplies, $40,500; temporary hospitals, $2,125,000; water and sewer systems, $2,500,000; electric lighting system, $605,000; roads, drainage and clearing, $5,040,000; construction and repairs of target ranges, $2,015,000; disposal of garbage, $3,250,000; ice boxes for preservation of food, $270,000; 98,700 water closet outfits, 15,000 lavatory outfits, 70,000 shower outfits, 28,000 urinal outfits, 6,000,000 ft. wrought iron pipe, 15,000 sinks, 400,000 lbs. fittings, 1,321,000 ft. c.-i. soil pipe, 3,346,000 lbs. fittings, 18,660 galvanized urinal troughs, 613,000 sacks cement, 65,000 cu.yd. sand, 112,000 cu.yd. crushed stone or gravel, 55,000 lb. white lead, 211,000 lb. oakum, 7,000,000 lbs. nails, 230,892 doors, 232,892 locks, 30,240 ft. square wire screen, 729,000 ft. galvanized iron pipe, 210,000 ells, 209,000 hooks, 69,000 iron shower heads, 69,000 brass stop compression cocks, 3,200,000 vitrified sewer pipe, 652,000 6-light window glass, 1000 door hangers, 91,000 chimney flues, 468 combination motor driven engines, 926 hose reels, 468,000 ft. linen fire hose, 38,000 fire extinguishers, 76,000 fire axes, 153,000 fire buckets, 91,000 chimney caps, electric lighting material and supplies, 2,211,000 ft. copper wire, 100,000 lamps, Mazda, 85,000 each lamp sockets, rosettes, tin shades, 4500 gross cots, bedding, etc., 1,200,000 rolls roofing paper, 108 ft. each, 500,000,000 ft. lumber, water tanks. Thus far the following sites for the camps have been selected: Ayer, Mass., El Paso, Tex., American Lake, Wash., Augusta, Ga., Columbia, S. C., Chickamauga Park, Ga., Greenville, S. C., Ft. Sam Houston, Tex., Atlanta, Ga., 1st camp, Atlanta, Ga., 2nd camp, Manorville, L. I., Wrightstown, N. J.

Charles A. Schieren Co., New York, have opened branch offices at 72 Congress St., W., Detroit, Mich.; 18 South Bway., St. Louis, Mo.; 475 South Main St., Memphis, Tenn.; 272 Marietta St., Atlanta, Ga.

Cement Products Exhibition Co., 210 South La Salle St., Chicago, Ill., have elected the following officers for the ensuing year: B. F. Affleck, Pres., William Dickinson, Vice Pres., Blaine S. Smith, Secy., E. L. Cox, Treas.

IDAHO VOTES MILLION FOR ROADS

Governor Alexander of Idaho has signed the road bill of that state, and almost a million dollars is to be expended in the next two years on the road from Moscow through Lewiston, to Weiser and southern Idaho, a connection with the transcontinental highway to Portland and Seattle. Under the Post Roads bill the United States Government will appropriate $150,000 for the road, the state will provide $375,000, and the balance will be furnished by the counties. For the highway from Montana to Lewiston, which will connect with the automobile highway to Portland and Puget Sound, Idaho has appropriated $30,000, the Forestry Department $30,000, and the counties $30,000.

ROAD BIDS REJECTED ON ACCOUNT OF EXCESSIVE PRICES

Upon the recommendation of Chief Engineer Uhler, Frank B. Black, state highway commissioner, rejected all bids received by the Pennsylvania State Highway Department, May 3, for the construction of improved roads in Allegheny, Cambria, Dauphin and Washington Counties. The prices bid were excessively high, even in view of the present scarcity of labor and increased cost of materials. Commissioner Black announced that all of these sections of road would be readvertised immediately, as well as the section of road in Clarion County for which no bids were received on May 3. It is the intention of the Highway Department to rush road construction throughout the state as appropriations become available, especially on the main-traveled routes.

Asbestos Protected Metal Co., First National Bank Bldg., Pittsburgh, Pa., has closed its Atlanta and St. Louis offices temporarily due to the fact of the managers entering the Officers' Reserve Corps. All communications should be addressed to the home office.

Gaston, Williams & Wigmore have moved their offices to Equitable Bldg., 120 Bway., New York City.

Wagner Electric Mfg. Co., St. Louis, Mo., has appointed E. T. Coup to take charge of its office in the First National Bank Bldg., Milwaukee, Wis.

Weiss Instrument Co. have moved their offices to 1731 Arapahoe St., Denver, Colo.

M. F. Williams, 925 Sheridan Ave., Detroit, Mich., has been appointed district representative for the distribution of the electromobile industrial trucks and tractors manufactured by Orenstein-Arthur Koppel Co., Koppel, Pa.

TRADE CATALOGS

"The Ideal Drive for Cement Mills." Link-Belt Co., 39th St. and Stewart Ave., Chicago, Ill. Booklet No. 253; pp. 12; 6 x 9 in.; illustrated. This describes installation of the Link-Belt silent chain at the plant of the Nazareth Cement Co.

Link-Belt Silent Chain. Link-Belt Co., 39th St. and Stewart Ave., Chicago, Ill. Data Book No. 125; pp. 128; 6 x 9 in.; illustrated. Contains information and tables presented in such form that engineers and power users may select their own drives and determine their cost.

"Chlorination at Dunwoodie." Wallace & Tiernan Co., Inc., 137 Centre St., New York. Technical Publication No. 8; pp. 8; 7 x 10 in.; illustrated. This is reprint of an article by T. D. L. Coffin from "Engineering News" of Sept. 7, 1916.

Concrete Mixers, Hoists, Trench Pumps, Etc. Waterloo Cement Machinery Corp., Waterloo, Ia. Catalog; pp. 48; 7 x 10 in.; illustrated.

Concrete Mixers, Pavers, Hoists, Etc. Lansing Co., Lansing Mich. Catalog No. 17C; pp. 48; 8 x 10 in.; illustrated.

Corr-Mesh for Fireproof Construction. Corrugated Bar Co., Buffalo, N. Y. Catalog; pp. 56; 6 x 9 in.; illustrated.

General Electric Company, Schenectady, N. Y. Bulletin 48,702, listing Fabroil gears.

National Tank & Pipe Company, Portland, Ore. Catalog 14, devoted to redwood and Douglas-fir pipe.

John R. Roebling & Sons Company, Trenton, N. J. Bulletin on wire rope.

Link-Belt Wagon and Truck Loaders. Link-Belt Co., 39th St. and Stewart Ave., Chicago, Ill. Book No. 270; pp. 64; 6 x 9 in.; illustrated.

DAM, NEWARK, N. J.

Bids were received by Bd. St. and Water Comrs., May 3, raising dam at Oak Ridge Reservoir from (A) Hyman & Goodman Co., 15 Exchange Pl.; (B) Harrison & Craig Co., 837 Broad St.; (C) Averill-Matthews Co., 31 Clinton St.; (D) J. F. Chapman, Lyons Farms, $81,245; (E) Beaver Eng. & Contr. Co., 219 Market St., $88,756; (F) Kaufman & Garcey, $91,481; (G) L. F. Brown Co., $94,003; (H) Carrington Constr. Co., River Dr., Passaic, $96,478. The item bids of the 3 lowest bidders were as follows:

	A	B	C
6,450 cu.yd. earth excavation, 0 to 4 ft. deep	$1.00	$0.65	$0.63
150 cu.yd. earth excavation, 4 to 20 ft. deep	2.00	2.50	3.50
1,035 cu.yd. rock excavation, as shown on plan	5.00	3.00	2.15
43,500 cu.yd. borrowed earth	.60	.65	.87
50 cu.yd. clay puddle	2.00	2.50	3.00
4,000 cu.yd. slope paving to be removed	1.00	.50	.75
900 cu.yd. concrete deposited without forms	6.00	8.00	6.73
3,235 cu.yd. concrete deposited in forms	7.00	9.00	7.93
3,260 lb. sheet lead	.20	.20	.23
200 lin.ft., 6-in. agricultural tile	.50	.50	.50
Removing and replacing deck of gatehouse (lump sum)	300.00	300.00	400.00
Furnishing and erecting stairway (lump sum)	200.00	100.00	400.00
Extended totals	$71,422	$75,540	$81,170

SEWERS, BARBERTON, O.

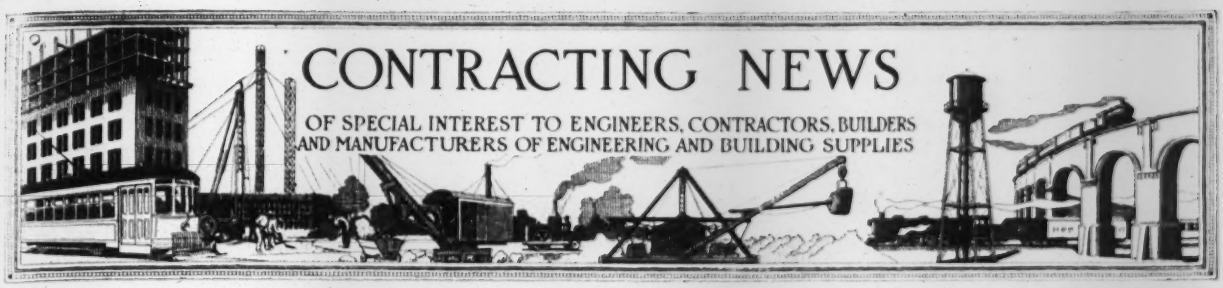
Contract No. 1

Bids were received by City for sewers and pumping station, Contract No. 1, from (A) Hoag & Dall, 510 Commercial Bank Bldg., Cleveland; (B) John B. McLane Co., Cincinnati; (C) W. McDowell & Sons, Cleveland. The unit bids were as follows:

	A	B	C
21,000 cu.yd. earth excavation 0–6 ft	$0.85	$0.94	$0.75
5,500 cu.yd. earth excavation 6–12 ft	1.00	1.37	2.00
800 cu.yd. earth excavation 12–18 ft	1.25	1.88	5.00
100 cu.yd. rock excavation	2.50	3.00	5.00
970 lin.ft. 4-in. vitrified pipe sewer	.20	.33	.17
2,840 lin.ft. 6-in. vitrified pipe sewer	.28	.40	.25
5,600 lin.ft. 8-in. vitrified pipe sewer	.40	.50	.35
1,870 lin.ft. 10-in. vitrified pipe sewer	.55	.90	.50
280 lin.ft. 12-in. vitrified pipe sewer	.72	1.00	.65
1,610 lin.ft. 15-in. vitrified pipe sewer	1.00	1.33	.85
870 lin.ft. 18-in. vitrified pipe sewer	1.31	1.79	1.25
2,380 lin.ft. 20-in. vitrified pipe sewer	1.56	2.02	1.59
8,890 lin.ft. 22-in. vitrified pipe sewer	1.96	2.14	2.00
4,580 lin.ft. 24-in. vitrified pipe sewer	2.17	2.60	2.50
6 4-in. vitrified pipe specials	.63	.50	.75
16 6-in. vitrified pipe specials	.88	.75	.75
16 8-in. vitrified pipe specials	1.30	1.00	1.00
60 cwt. waterproofing compound	4.50	5.00	10.00
4,120 lin.ft. 36-in. segment block sewer	3.36	4.45	3.63
4,120 lin.ft. 36-in. reinforced concrete pipe	3.42		3.63
10 10-in. vitrified pipe specials	1.84	1.60	1.50
100 tons c.-i. pipe in place	100.00	90.00	95.00
3 tons c.-i. pipe specials	150.00	150.00	140.00
2 12-in. vitrified pipe specials	2.28	2.00	2.00
29 standard MH, 0–7 ft	35.00	50.00	70.00
32 standard MH, 7–13 ft	65.00	80.00	84.00
7 standard MH, 13–19 ft	95.00	100.00	105.00
1 special MH No. 8	100.00	150.00	225.00
1 special MH No. 1	150.00	150.00	185.00
1 special MH No. 2	150.00	150.00	185.00
1 special MH No. 3	200.00	150.00	220.00
1 special MH No. 4	150.00	150.00	180.00
1 special MH No. 5	125.00	150.00	185.00
1 special MH No. 6	100.00	150.00	175.00
1 special MH No. 7	100.00	150.00	175.00
1 blow-off MH A	250.00	300.00	160.00
1 blow-off MH B	250.00	300.00	160.00
45 6-in. Y branches on 8-in. pipe	80	1.00	1.00
22 6-in. Y branches on 15-in. pipe	2.00	1.50	2.30
30 6-in. Y branches on 18-in. pipe	2.60	2.00	3.20
20 6-in. Y branches on 20-in. pipe	3.00	2.50	3.84
83 6-in. Y branches on 22-in. pipe	4.00	3.00	5.00
23 8-in. stubs in place	80	1.00	75
40 6-in. slants in place	35	1.00	75
2 6-in. stubs in place	60	1.00	65
250 lin.ft. 6-in. vitrified pipe house connections	30	1.00	50
54 6-in. vitrified pipe specials	88	1.00	75
5 cu.yd. concrete masonry, Class 1	12.00	15.00	20.00
15 cu.yd. concrete masonry, Class 2	10.00	12.00	18.00
1,030 cu.yd. concrete masonry, Class 3	8.00	9.00	15.00
10-in. stubs in place	1.10	1.00	1.00
295 cu.yd. reinforced concrete masonry	16.00	20.00	22.00
1 cu.yd. brick masonry	18.00	25.00	17.00
500 cu.yd. earth embankment	1.50	.75	1.25
10 M ft.b.m. sheeting left in place	40.00	20.00	35.00
300 lin.ft. 8-in. underdrain	40	50	50
15-in. stubs in place	2.00	2.00	2.00
100 cu.yd. gravel refill	1.00	3.00	2.00
600 hours common labor	.57	.80	.45
30 sq.yd. restoring brick roadway	2.00	2.50	2.50
200 sq.ft. restoring cement walks	.25	.20	.20
2,600 sq.ft. restoring stone walks	.20	.20	.05
40 lin.ft. restoring curbing	.50	1.00	.15
50 cu.yd. cinder filling	1.00	2.25	1.50
270 lin.ft. ¾-in. w.i. pipe	.18	.30	.09
2,100 lin.ft. 2-in. w.i. pipe	.52	.55	.32
Wolf Ave. sta. superstructure	1,127.00	1,874.00	900.00
Wooster Rd. sta. superstructure	900.00	1,433.00	900.00
Pumping equipment, Wolf Ave. (lump sum)	4,250.00	3,700.00	4,000.00
Ejector equipment, Wooster Rd. (lump sum)	2,000.00	2,000.00	4,000.00
Ejector equipment, Manchester Rd. (lump sum)	3,000.00	1,800.00	4,000.00
Miscellaneous metal work (lump sum)	2,000.00	1,000.00	1,500.00
10-in. stubs in place	1.45	2.00	1.25
Extended totals	$128,277	$140,988	$144,648

Buff & Buff Mfg. Co., Jamaica Plain, Boston, Mass., surveying instruments, has purchased the business of R. Seelig & Sons, 231 North 5th Ave., Chicago, Ill. Madison S. Jordan will remain in full charge of the Chicago office and R. Seelig will have charge of the shop.

Blackstone Co., Jersey City, N. J., has been incorporated to carry on a general paving business, specializing in bituminous materials and paving machinery. C. H. Jarvis, J. R. Turner and P. L. Nieser, incorporators.



Proposals

For Proposals Advertised See Pages 71 to 77 Inclusive

WATER-WORKS

Bids Close		See Eng. News-Record
June 18.	Brooklyn, N. Y.	June 14
June 18.	Wadsworth, O.	June 7
June 21.	New York, N. Y.	June 14
June 23.	Wickenburg, Ariz.	June 7
June 26.	Livingston, Mont. Adv. June 7 and 14.	June 14
July 1.	Leeds, N. D.	June 7
July 1.	Fessenden, N. D.	June 7
July 2.	Hazen, N. D.	June 14
July 3.	Chardon, O.	June 14
July 10.	Duluth, Minn.	June 14
July 17.	New York, N. Y. Adv. June 7 and 14.	June 14

SEWERS

June 18.	Neodesha, Kan.	June 14
June 18.	St. Paul, Minn.	June 14
June 18.	Creston, Ia.	June 14
June 18.	York, Ont.	June 14
June 19.	Newark, N. J.	May 24
June 19.	Newark, N. J.	May 31
June 19.	Akron, O.	June 7
June 19.	Salt Lake City, Utah	June 7
June 19.	Ghent, O.	June 14
June 19.	Bismarck, N. D.	June 14
June 19.	St. George, S. I., N. Y.	June 14
June 20.	Long Island City, N. Y.	June 14
June 20.	Scarsdale, N. Y. Adv. June 7 and 14.	June 14
June 21.	Bozeman, Mont.	June 14
June 22.	Hillsboro, Wis.	June 14
June 25.	Gary, Ind.	June 14
June 28.	Casper, Wyo.	June 14
June 28.	Chicago, Ill. Adv. May 24.	May 24
July 3.	Davenport, Ia.	June 14
July 12.	Bridgeport, Conn. Adv. June 14.	June 14

STRUCTURAL STEEL WORK

June 18.	Marshall, Minn.	June 14
June 19.	Niagara Falls, N. Y.	June 14
June 19.	Molino, Fla.	June 14
June 20.	Salem, Ore. Adv. May 31 and June 7.	May 31
June 20.	Reily, O.	June 7
June 22.	Pittsburgh, Pa.	June 14
June 26.	Mandan, N. D.	June 14
June 26.	Duval, Wash.	June 14
June 27.	Brownsville, Tenn.	June 14
June 28.	Kinder, La.	June 14
June 29.	Morrillton, Ark. Adv. June 7. Adv. June 7 and 14.	June 7
July 15.	Orange, Tex.	June 7

REINFORCED CONCRETE

June 18.	Donnoha, N. C.	June 7
June 18.	Elizabeth, N. J.	June 7
June 18.	Lisbon, N. D.	June 14
June 19.	Johnstown, Pa. Adv. June 7.	June 7
June 19.	Luverne, Minn.	May 31
June 20.	Canton, O.	June 14
June 20.	Canton, O.	May 31
June 20.	Pikeville, Ky.	June 14
June 20.	Hershey, Pa.	June 14
June 21.	Columbus, O.	May 31
June 21.	Union City, Tenn.	June 14
June 22.	Fergus Falls, Minn.	June 14
June 23.	Schoharie, N. Y. Adv. June 7 and 14.	June 7
June 25.	Olympia, Wash.	June 14
June 25.	Clifton, Ariz.	June 7
June 26.	Belva, W. Va.	June 14
June 26.	Monroe, Mich.	June 7
June 29.	Clarksburg, W. Va.	June 14
July 2.	Hamlin, W. Va.	June 14

STREETS AND ROADS

June 15.	New York, N. Y.	June 14
June 16.	Kingwood, W. Va.	June 7
June 18.	Ft. Ransom, N. D.	May 31
June 18.	New Brunswick, N. J.	May 31
June 18.	Camden, N. J.	June 7
June 19.	Belvidere, N. J.	May 31
June 19.	Salt Lake City, Utah	June 7
June 19.	Wildwood, N. J.	June 7
June 19.	Clinton, N. C. Adv. June 7 and 14.	June 7
June 19.	West Orange, N. J.	June 14
June 20.	Belvidere, N. J. Adv. June 7 and 14.	June 7
June 20.	New Junction, O. Adv. June 7.	June 7
June 20.	Pine Bluff, Ark. Adv. June 7.	June 7
June 20.	Reading, Pa. Adv. June 7 and 14.	June 14
June 20.	Manhattan, Cal.	June 14
June 20.	Brooklyn, N. Y.	June 14
June 20.	Long Island City, N. Y.	June 14
June 21.	Lebanon, Pa. Adv. June 7 and 14.	June 14
June 21.	Griffin, Ga. Adv. June 7 and 14.	June 14
June 21.	Indiana	June 14
June 21.	Newark, N. J.	June 14
June 21.	New York, N. Y.	June 14
June 23.	St. Louis, Mo.	June 14
June 25.	Upland, Cal.	June 14
June 26.	Cleveland, O.	June 14
June 26.	Crowley, La.	June 14
June 26.	Rahway, N. J. Adv. June 7 and 14.	June 14
June 28.	Indiana	June 14
June 28.	Oberlin, La.	June 14
June 30.	Adamston, W. Va.	June 14
July 1.	Pine City, Minn.	May 31
July 2.	Hamlin, W. Va.	June 7
July 2.	Frederick, Md.	June 14
July 2.	Indiana	June 14
July 3.	Indiana	June 14
July 14.	Indiana	June 14
Aug. 13.	Lewiston, Idaho	May 24

EXCAVATION AND DREDGING

June 16.	Yakima, Wash.	June 14
June 16.	Frankfort, Ind.	June 14
June 18.	Petersburg, Ind.	May 24
June 18.	Opelousas, Ia.	May 31
June 18.	Beardstown, Ill Adv. June 7 and 14.	June 7
June 18.	St. Landry, La.	June 14
June 19.	Madison, S. D.	June 14
June 19.	Mora, Minn.	June 14
June 20.	Onarga, Ill.	June 14
June 22.	Chaska, Minn.	May 31
June 26.	Albany, N. Y. Adv. May 31 to June 14.	May 31
June 26.	Benson, Minn.	June 14
June 28.	Hullett, Ont.	June 14
June 30.	Austin, Minn.	June 14
June 30.	Arcadia, Fla.	June 14

BUILDINGS

June 16.	Ansonia, Conn.	June 14
June 18.	Austin, Tex.	May 31
June 18.	Epworth, Ia.	May 31
June 18.	Batavia, N. Y.	June 14
June 19.	Clearwater, Fla.	May 31
June 19.	New York, N. Y. Adv. June 7.	June 7
June 20.	Wolford, N. D.	June 7
June 20.	Martinsburg, Ia.	June 7
June 20.	Reynolds, Neb.	June 14
June 21.	Hastings, Neb.	June 14
June 22.	Lebanon, O.	May 31
June 22.	Bordentown, N. J.	June 14
June 23.	Ironton, Minn.	June 14
June 23.	St. Augustine, Fla.	June 14
June 23.	Overpeck, O.	June 14
June 25.	Ft. Madison, Ia.	June 7
June 25.	Portsmouth, O.	June 14
June 25.	Augusta, Kan.	June 14
June 25.	De Graff, O.	June 14
June 25.	Syracuse, N. Y.	June 14
June 25.	Nevada, Ia.	June 14
June 26.	Albany, N. Y.	June 7
June 26.	Mt. Vernon, O.	June 14
June 26.	Larned, Kan.	June 14
June 29.	Traer, Ia.	June 14
July 1.	Magnolia, Ark.	June 14
July 1.	Riverton, Minn.	June 7
July 9.	Cleveland, O.	June 14

FEDERAL GOVERNMENT WORK

June 16.	Montgomery, Ala. Adv. May 24 to June 7.	May 17
June 16.	San Francisco, Cal.	June 7
June 16.	Wash Woods, N. C. Adv. June 7.	June 7
June 16.	Washington, D. C.	June 14
June 18.	Akron, O.	May 17
June 18.	Pensacola, Fla.	May 31
June 18.	Newport, R. I.	June 14
June 19.	Montevideo, Minn.	May 17
June 19.	Aledo, Ill. Adv. May 24 and 31.	May 17
June 20.	Beaufort, S. C. Adv. May 17.	May 17
June 20.	Ft. Royal, Va.	May 31
June 20.	Galveston, Tex. Adv. May 24 to June 14.	May 31
June 21.	Cambridge, Md.	May 17
June 22.	Butler, Mo	June 7
June 22.	Fordyce, Ark. Adv. May 17 and 24.	May 24
June 23.	Raton, N. M.	May 17
June 23.	New York, N. Y. Adv. May 24 to June 14.	May 31
June 25.	Washington, D. C.	May 31
June 25.	New Orleans, La. Adv. May 31 to June 14.	May 31
June 25.	Bremerton, Wash.	June 7
June 25.	Washington, D. C.	June 14
June 25.	Annapolis, Md.	June 14
June 25.	Vallejo, Cal. Adv. June 14.	June 14
June 26.	Monesson, Pa.	May 31
June 27.	Vineland, N. J.	June 7
June 28.	New Orleans, La. Adv. May 31 to June 14.	May 31
June 28.	Detroit, Mich. Adv. May 31.	May 31
June 28.	Prescott, Ark. Adv. June 7 and 14.	June 7
June 30.	Detroit, Mich. Adv. June 7 and 14.	June 14
July 5.	Wilmington, Del. Adv. June 14.	June 14
July 10.	Buffalo, N. Y.	June 14
July 12.	Hoopeston, Ill.	June 7
July 16.	Newburyport, Mass.	June 14

MISCELLANEOUS

June 18.	Retaining Wall, Winsted, Conn.	June 14
June 18.	Duct Line, New York, N. Y.	June 14
June 20.	Carts, New York, N. Y.	June 14
June 20.	Snow Plows, New York, N. Y.	June 14
June 20.	Lime, Long Island City, N. Y.	June 14
June 22.	Boilers, Newark, N. Y.	June 14
June 23.	River Improvements, Olive, Cal.	June 14
June 25.	Harbor Improvements — Newport, Ore.	June 7

Where name of official is not given, inquiries should be addressed to City Clerk, County Clerk or corresponding official.

WATER-WORKS

Proposed Work

N. Y., Jamestown—City receives bids in July improving water-works system; plans include 30-ft. diameter well and pump, 50- and 30-ft. deep. L. P. Hopgood, supt. C. C. Hopkins, 349 Cutler Bldg., Rochester, engr.

Water-Works (Continued)

N. Y., Johnstown—(Official)—City receives bids in July building storage reservoir. About $110,000. W. E. Natanson, city engr. J. P. Wells, Cutler Bldg., Rochester, cons. engr.

N. J., Asbury Park—City plans to install 8- and 10-in. water mains in 7 streets. R. Bartley, Jr., supt.

N. J., Dover—Bd. Aldermen plan to improve gravity water system. About $17,582. C. P. Cook, supt.

N. J., Perth Amboy—Owing to lowering of water mains under Raritan River, as ordered by War Dept., bd. water comrs. plans to establish waterworks on north side of river. About $2,000,000. T. Grieve, supt.

N. J., Summit—Bd. Pub. Utility Comrs. granted permission to Commonwealth Water Co. to issue $55,000 bonds and $20,000 capital stock for extensions.

Pa., Bethlehem—Council granted permission to Bethlehem Steel Co. to construct new water lines to serve 1000 houses to be erected by company in eastern section. Company will bear cost of work.

Pa., Downington—(Official) — Boro retained H. W. Hatton, sanitary and hydraulic engr., 708-9 Equitable Bldg., Wilmington, Del., to prepare plans 60,000,000 gal. reservoir and dam and filtration plant for water supply, including rapid sand, mechanical filter. About $75,000.

Del., Wilmington—Council will sell $300,000 bonds to install water system. E. M. Hoopes, Jr., supt.

W. Va., Paden City—City election about June 15 to vote on $40,000 bonds to improve water-works. H. L. Maddock, 404 Newark Trust Bldg., Newark, Ohio, engr.

Ga., Atlanta—Water-Works Dept. plans water system to furnish water to cantonment near Ben Hill, daily capacity 1,500,000 gal. About $50,000 or $60,000. Z. Smith, mgr.

Ga., Macon—City plans to extend water mains from East Macon to cantonments at Holley Bluff. About $60,000 to $75,000. C. Y. Williamson, chn.

Ga., Savannah—City plans $500,000 bond issue to rebuild waterworks. G. Figg, supt.

O., Maple Heights—(Worthington P. O.)—Village voted $50,000 bonds to install waterworks.

O., Rocky River—Town will sell $17,130 bonds, July 3, to install water mains in Columbia, Lakeview and Bates Sts. F. Mitchell, clk.

O., Piqua—City retained Hazen, Whipple & Fuller, engrs., 30 East 42nd St., New York City, to prepare plans complete water purification plant and all auxiliary structures. Noted Apr. 19.

O., St. Bernard—County soon receives bids 1-story, 60 x 100-ft. water softening plant and filtration system. About $90,000. E. Kay, 1322 McMillan Ave., Cincinnati, engr.

Wis., Shawano—City plans to improve water and light plant and will install 250-hp. Corliss engine. P. Capraro, supt.

Ia., Aplington—(Official)—City will sell $18,000 bonds to install waterworks. H. Busse, clk.

Ia., Conrad—City sold $15,000 bonds for water-works and sewerage systems.

Ia., Knoxville—City plans to install waterworks system. About $20,000. C. W. Rowland, Des Moines, engr.

Ia., Northwood—City plans to extend water mains in several streets. L. J. Thompson, clk.

Ia., Riceville—City sold $60,000 bonds to improve waterworks. H. Moeller, clk.

Ia., Stuart—See "Sewers."

Minn., Akely—City sold $10,000 bonds for waterworks system.

Kan., Junction City—City plans to build 1,000,000 gal. capacity reservoir. J. H. Rathert, supt.

Kan., La Crosse—City sold $30,000 bonds to install waterworks. W. B. Rollins & Co., engrs., 209 Railway Exchange Bldg., Kansas City, Mo., preparing plans.

Kan., Topeka—City preparing plans improving water system. About $25,000. J. Shaw, supt.

Neb., Beaver City—City preparing plans improving water-works system. About $10,000.

Wyo., Basin—City Council considering plans extending water and electric-light systems. G. B. Morrison, supt.

Wyo., Burns—City sold $17,000 bonds to install water and light plant.

Wyo., Casper—See "Buildings."

Mont., Eureka—City Council plans to extend waterworks.

Tex., Abilene—City voted to purchase water plant on Elm Creek and to build 5,000,000,000 gal. reservoir.

Tex., Ft. Worth—City plans to spend $85,000 for improving waterworks, including sedimentation tanks, aeration plant and increasing capacity of filtration system to 15,000,000 gal. C. F. Crabtree, supt.

Okla., Ada—City voted $100,000 bonds to improve waterworks. Benham Engr. Co., Colcord Bldg., Oklahoma, engrs. Noted May 3.

Okla., Bush Springs—City voted $30,000 bonds to construct waterworks. Macintosh-Walton Co., 1023-24 State Natl. Bank Bldg., Oklahoma, engrs. Noted May 24.

Colo., Boulder—City plans to install chlorination plant to purify water supply, average daily consumption, 3,600,000 gal.

Colo., Colorado Springs—Brookside Water Co. soon receives bids for 500,000-gal. reservoir.

Colo., Ft. Collins—See "Reinforced Concrete."

Colo., Greeley—City council plans to purchase 1 mi. of 20-in. steel water pipe. M. Seaman, supt.

Colo., Rosemont—Myron Strattom Home having plans prepared for reservoir. About $100,000.

Colo., Sterling—Council plans pumping plant in southern section of city. G. C. Forgales, supt.

Idaho, Newadle—(Teton P. O.)—Town plans to install water system.

Utah, Salt Lake City—See "Sewers."

Ariz., Yuma—(Official)—City plans to hold election in fall to vote on bonds to install water system and extend light and gas plant. Contracts totaling $100,000 will then be awarded. F. E. Trask, Union Oil Bldg., Los Angeles, engr. Noted May 24.

Wash., Bremerton—Water Dept. plans new pipe lines and reservoir with 10,000,000-gal. capacity.

Wash., Seattle—Bd. Pub. Wks. approved plans water mains in Shilshole Ave. et al. About $36,973. L. B. Youngs, supt.

Alta., Edmonton—City having plans prepared by A. Haddow, engr. for extension to waterworks. About $47,000.

B. C., Kaslo—Dominion Government plans to install gravity water system at Balfour Sanitorium. About $17,000.

Bids Desired

N. Y., Brooklyn—Until June 18 by W. Williams, comrs. water supply, gas and electricity, Municipal Bldg., New York City, hauling and laying water mains and appurtenances in Barrey, Chester, Crescent, Lombardy, East 15th, Bay 46th, Bay 47th, 58th, 59th, 61th, 67th and 77th Sts. and Lott, Marine, Porter, 7th and 16th Aves.

N. Y., New York—(Official)—Until July 17 by Bd. Water Supply, Municipal Bldg., for Shandaken tunnel, to be part of Schoharie watershed development for New York City water supply; advertised in this issue.

N. Y., New York—Until June 21 by W. Williams, comr. water-supply, gas and electricity, furnishing, delivering, unloading, stacking and storing c.-i. pipe, special and valve-box castings, valves and double-nozzle fire hydrants.

O., Chardon—(Official)—Until July 3 by R. S. Parks, village clk., installing waterworks. Noted June 7.

Minn., Duluth—(Official)—Until July 10 by D. A. Reed, mgr. water and light dept., installing 20,000,000 gal. centrifugal pump unit (electrically driven), including pump, motor, transformers, control, etc. About $42,000. E. W. Kely, engr. Noted May 10.

N. D., Hazen—Until July 2 by Village for installing water system. G. Freer, clk.

Mont., Livingston—(Official)—Until June 26 by city clk. for water works plant and system; advertised in this issue.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

N. Y., Brooklyn—Dept. Water Supply, Gas and Electricity, Municipal Bldg., New York City, received low bid, furnishing, delivering and laying water mains and appurtenances in Atlantic, Highland, Manhattan, Neptune, Poplar, Seagate and Surf Aves., in grounds of Seagate Assn., from Murphy Bros., 2624 Cropsey Ave., Brooklyn, $24,901. Noted May 31.

★**N. Y., Cortland**—(Official)—Bd. Water Comrs. let contract pumping station to L. R. Hopkins, Cortland, $16,055. Noted Apr. 26.

★**N. Y., New York**—(Official)—Bd. Water Supply, Municipal Bldg., New York City, let contract furnishing and delivering cement for use at Woodstock and Olivebridge dikes of Ashokan reservoir to be delivered to West Hurley station of Ulster and Delaware R.R., to Alsens American Portland Cement Works, 45 Bway., $2.30 per bbl. Noted June 7.

★**Md., Mt. Rainier**—See "Sewers."

★**O., Bradford**—City let contract improving water-works to H. E. Miller, 1652 North High St., Columbus, $14,445. Noted June 7.

★**Minn., Wabash**—See "Sewers."

★**Kan., McPherson**—City let contract improving water-works and electric-light plant to Merkle-Hines Machine Co., 508 Interstate Bldg., Kansas City, Mo., $20,000.

★**S. D., Milbank**—(Official)—City let contract installing filter equipment for mechanical gravity filter plant of 500,000-gal., 300 G.P.M. motor driven centrifugal pumps, to W. Danforth, 411 Hackney Bldg., St. Paul, filter equipment, $4750; pumps, $1180. Noted May 24.

★**Ark., Malvern**—City let contract water and sewerage systems to J. B. McCrary Co., 3rd Natl. Bank Bldg., Atlanta, $113,350.

SEWERS

Proposed Work

Mass., Fall River—City having plans prepared by H. R. Barrows, engr., 6 Beacon St., Boston, for improving sewerage system.

N. Y., Larchmont—(Official)—Bd. Trustees retained J. H. Gregory, engr., 170 Bway., New York City, to prepare plans sewage pumping station and sewage force main.

N. J., Matawan—Boro. council plans to purchase site for sewage disposal plant. About $80,000. G. A. Johnson, 150 Nassau St., New York City, cons. engr.

N. J., Newark—Bd. Works plans Sewerage system in Waverly Dist., including Van Duyne St., Evergreen and Frelinghuysen Aves., involving 36-, 30-, 24-, 18- and 12-in. pipe. M. R. Sherrard, city engr.

Pa., Erie—City approved plans building intercepting sewer and sewerage treatment system. About $810,000. B. E. Briggs, city engr.

Pa., Wilkes-Barre—City asked S. Dixon, state comr. health, for permission to construct sewage disposal plant on Susquehanna River at outlet of Solomon's Creek. B. K. Finch, city engr.

W. Va., Weston—State Legislature appropriated $45,000 for sewage disposal plant at state asylum.

Miss., Lambert—City voted bonds to install sewerage system.

O., Akron—See "Streets and Roads."

O., Canton—City plans to install sanitary sewer portion 17th St., N.E. W. E. Sarver, city engr.

O., Cleveland—City plans sewers in Clarkstone, West 30th and West 110th Sts. R. Hoffman, city engr.

O., Hamilton—See "Streets and Roads."

O., Marion—City plans laying sanitary sewers in portion Spencer St. J. E. Petrie, city engr.

O., Marion—City plans storm water sewer in Mound St. from point south of Sugar St. H. H. Noyes, city engr.

Ind., Fortville—(Official)—Town having plans prepared installing 1200-ft. 15-in. storm sewers and 2588 ft. curb and gutter. C. Boone, Greenfield, engr.

Ind., Indianapolis—B. J. T. Jeup, city engr., submitted plan to bd. park comrs. for intercepting sewer along Pleasant Run, to eliminate objectionable waste now flowing into stream causing unsanitary conditions along parkways and in parks.

Mich., Manistique — Council approved plans of city engineer estimating cost installing storm sewer in MacGregor Ave. at $19,820.

Mich., Trenton—Village plans to install trunk sewer in Front St.

Ill., Harvey—City had plans prepared by A. W. Hersey, engr., installing 12 to 15-in. vitr. tile sewers portion Marshfield Ave. J. Alton, clk.

Sewers (Continued)

Wis., Appleton—City having plans prepared sanitary sewer in portion Durkee St. M. Williams, city clk.

Ia., Arthur—Council plans to install 9000 ft. sanitary sewer pipe and septic tank.

Ia., Conrad—See "Water-Works."

Ia., Muscatine—City soon receives bids installing sewer, Brook St. C. H. Young, city engr.

Ia., Stuart—City plans to spend $75,000 for improving sewers, water mains, reservoir and city hall.

Minn., Caledonia—Village soon lets contract installing sewerage system. D. C. Merlo, clk.

Minn., Lake Crystal—Village sold $30,000 bonds to install sewers. W. P. Cobb, clk.

Minn., St. Paul—City Council approved plans sewers in Fairview, Summit, Wheeler, MacAlester, Pascal and Cretin Aves. and James and Sidney Sts.

Minn., Spring Valley—City having surveys made by E. W. Goldenstar, engr., Mankato, for sewerage system. About $50,000.

S. D., Mobridge—City engr. preparing plans sewer extensions. Bids will soon be received.

Tex., McKinney—City plans to install sewage disposal plant.

Okla., Rush Springs—City voted $25,000 bonds to install sewers. Mackintosh-Walton Co., 1023-24 State Natl. Bank Bldg., Oklahoma, engrs.

N. M., Lordsburg—City Council plans to install sewerage system.

Utah, Salt Lake City—City election June 26th to vote on $808,500 bonds to improve, extend and enlarge water system; $176,000 bonds to install storm sewers; $100,000 to build bridges; $316,000 to improve streets; $200,000 to improve parks and build bath house. S. Q. Cannon, city engr.

Ore., Woodburn—City submitted plans to state engr., for approval, for improving sewerage system. About $30,000. L. B. Wickersham, city engr.

Cal., Folsom—State Dept. Engineering, Forum Bldg., Sacramento, plans sewage disposal plant at penitentiary. About $11,000. W. F. McClure, state engr.

Bids Desired

Conn., Bridgeport—(Official)—Until July 12 by Paving and Sewer Comn., for building Western Sewage Pumping Station and equipment, Contracts Nos. 1 and 2, advertised in this issue.

N. Y., Long Island City—Until June 20 by M. E. Connolly, boro. pres., constructing sewers and appurtenances in portions of Hancock, 13th, 14th, Chauncey, Howard Packard Sts. and Review Ave., 1st Ward; Prospect, Hayes, Jackson Ave., 50th, 49th, 48th, 47th, 46th, 45th, 44th, 43rd, 42nd, 41st, and Audley Sts., 2nd Ward; Ferris St., St. Anna, Jamaica, Kimball, South Cochran, Van Wyck, Silkworth and Ellsworth Aves., 4th ward; constructing receiving basins and appurtenances on Nelson Ave., Van Buren, Bragaw and Van Pelt Sts., 1st ward.

N. Y., New York—See "Streets and Roads."

N. Y., St. George, S. I.—Until June 19 by C. D. Van Name, boro. pres., constructing temporary sanitary sewer with necessary appurtenances in portion Northcliffe Ave.

N. Y., Scarsdale—(Official)—Until June 20 by Street Comr. for laterals sewers and appurtenances; advertised in this issue.

Pa., Reading—See "Streets and Roads."

O., Ghent—(Official)—Until June 19 by Bd. County Comrs., Akron, for storm water sewer in Ghent. M. Rebel, clk.

Ind., Gary—(Official)—Until June 25 by W. P. Cottingham, city engr., for Sewers Nos. 67 and 68.

Wis., Hillsboro—(Official)—Until June 22 by A. Shebeck, village clk., furnishing and laying 572 ft. 12-in., 1148 ft. 10-in., 11,326 ft. 8-in. and 2407 ft. 6-in., vitrified pipe sewers; also 33 manholes, 9 lampholes, 2 flush tanks and 1 bulkhead. W. G. Kirchoffer, Vroman Bldg., Madison, engr.

Ia., Creston—(Official)—Until June 18 by City for building sewage disposal plant including 300,000-gal. Imhoff tank, dosing chamber, filter beds, etc., also outfall sewer extensions. Former bids rejected. T. S. De Lay, city engr. Noted May 17.

Ia., Davenport—(Official)—Until July 3 by F. U. Friedholdt, clk. bd. pub. wks., storm drain in Kirkwood Blvd., Cedar and Rock Island Sts. Dist. About $80,000. Noted May 10.

Minn., St. Paul—Until June 18 by H. W. Austin, city purch. agent, for storm sewers in Fairview, Wheeler, Summit, Macalester and Pascal Aves.

Kan., Neodesha—Until June 18 by Black & Veatch, engrs., Interstate Bldg., Kansas City, Mo., for storm sewers for city.

N. D., Bismarck—Until June 19 by City for installing storm sewers. C. L. Burton, aud.

Wyo., Casper—Until June 28 by City installing 3300 ft. 60-in., 3300 ft. 48-in., 1600 ft. 36-in., 400 ft. 30-in. storm sewers, also 3700 ft. 15-in., 7000 ft. 12-in. and 15,000 ft. 8-in. sanitary sewers, also manholes, appurtenances, etc. L. S. Worthington, city engr.

Mont., Bozeman—Until June 21 by C. A. Speith, city clk., building storm sewer in Dist. No. 146; sewers in Dist. No. 148.

Ont., York—Until June 18 by F. Barber, twp. engr., sewer on Rushton Rd. and Muriel Ave. and sidewalk on Oakwood Ave.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

Mass., Milton—Town sewer comrs. received low bids, June 7, laying 3565-ft. pipe sewer from D'Adderio & Booth, Mattapan, $11,586, T. Bruno, 18 Tremont St., Boston, $14,011, Susi & Williams, 306 Hanover St., Boston, $15,452.

N. Y., Brooklyn — (Official) — L. H. Pounds, boro. pres., received low bids, sewers in portions various streets as follows: Ralph Ave., J. F. Cogan Co., 2 Franklin St., $227,529; Kings Highway, Murphy Bros., $25,772; East 14th St., B. Peconi & Son, $11,274. Noted May 31.

N. Y., Rochester—Bd. Contract and Supply received low bids furnishing hydraulic power equipment for Irondequoit sewage disposal plant from O'Connell Electric Co., $25,000; Warder, Clark & Chaplin, $26,486; Wheeler-Green Co., $27,337.

★**Pa., McKeesport**—City let contract installing sewers to F. Crosier and E. Hengstler, $10,811.

★**Pa., Phila.**—(Official)—City let contract installing sewers, Wheatsheaf Lane and Richmond Str., to J. J. McHugh, 1430 South Penn. Sq., $156,000.

★**Pa., Scranton**—City let contract installing 26,960 lin.ft. T. P. pipe sewer, 21st Ward, to M. Stipp, 435 Moir St., $86,000.

★**Md., Mt. Ranier**—(Official)—Town let contract sanitary sewers, water mains, waterworks pumping station, steel tank and tower to H. Stensrod, Marquette, Mich. Noted May 3.

★**Fla., Jacksonville**—(Official)—Trustees let contract sanitary sewers to M. P. Flynn, 11 West 4th St., $55,455. Noted May 17.

★**Tenn., Jackson**—(Official)—Bd. comrs. let contract public sanitary sewer extension to Municipal Constr. Co., Empire Bldg., Atlanta, $32,341.

★**O., Barberton**—(Official)—Bd. Control let contract building sewage treatment plant to A. S. Hecker & Co., Cleveland, $80,000. Noted May 17.

★**O., Cleveland**—Bd. Control let contract installing sewer (Plan C) in St. Clair St., to Amata Constr. Co., 1108 B. & L. E. Bldg., $65,045.

O., Dayton—City received only bid storm sewer on East 3rd St. from R. J. Paul.

★**O., New Matamoras**—(Official)—City let contract sanitary sewers to Green & Getman, New Matamoras.

★**Ind., Anderson**—City let contract sewer in East Lynn St. to Minnick Constr. Co., Newcastle, $15,990.

★**Ind., Valparaiso**—(Official)—City let contract West End sewerage system to G. McGillicuddy, Valparaiso, $24,990. Noted May 10.

Mich., Holly—City received low bids installing sewers from C. S. Bell & Son and J. Prescott & Co.

★**Wis., Sheboygan**—City let contract sewer to J. J. Koepsell Co., Sheboygan.

★**Wis., Whitefish Bay**—(Official)—Village let contract sewers to J. T. Blake, Madison, $2.90 per lin.ft.

★**Ia., Audubon**—City let contract storm sewer to H. J. Petersen, 1119 South 35th Ave., Omaha, $12,400.

★**Minn., Wabash**—City let contract waterworks and sewerage system to E. T. Webster, 437 Beacon Ave., St. Paul, $11,933. Noted May 24.

★**Kan., Leavenworth**—City let contract installing sewers to E. W. Geiger Constr. Co.

★**Neb., Fremont** — City let contract installing sewers in 15th and 19th Sts. to J. W. Andrews, Fremont.

★**Ark., Malvern**—See "Waterworks."

★**Okla., Cordell**—City let contract lateral sewers in Dist. No. 1 to Municipal Excavation Co., 200 East Main St., Oklahoma, $42,200.

Wash., Seattle—Bd. Pub. Wks. received bids sewers in East 54th St. et al., (a) clay pipe, (b) concrete pipe, from Fiorito Bros., Seattle, (a) $44,939, (b) $44,033; James Constr. Co., Seattle, (a) $45,519, (b) $42,946; C. Cristoforo, Seattle, (a) $45,105, (b) $43,809; Superior Constr. Co., Seattle, $46,751, (b) $45,997; Scalzo & Co., Seattle, (a) $47,466, (b) $46,351. Noted Apr. 19.

★**Ore., Huntington**—Council let contract sewers, cement walks and paving to J. A. Hoskins, Huntington, $23,370.

Cal., Los Angeles—City received low bid vitrified sewers in Larchmont and other streets from J. Sutalo, 476 Bell St., $14,393.

★**Cal., Sacramento**—City let contract sewers in several streets to J. W. Terrell.

STRUCTURAL STEEL WORK

Proposed Work

Mass., Lawrence—City having plans prepared by B. H. Davis, engr., 17 Battery Pl., New York City, for 2 bridges over Merrick River.

Connecticut—State Legislature, Hartford, appropriated about $6,000,000 to State Highway Dept. for next 2 years for construction of bridges, roads and elimination of dangerous conditions on trunk line highways.

N. J., Salem—Salem-Penns Grove Traction Co., 704 Stock Exchange Bldg., Phila., having plans prepared for drawbridge. H. C. Perry, Penns Grove, supt.

Pa., Phila.—Pennsylvania R.R. plans to build bridge to connect Petty's Island with New Jersey shore. A. C. Shand, Broad St. Station, ch. engr.

Pa., Watsontown—Northumberland and Union Cos. soon receive bids steel and cement bridge across Susquehanna River between Watsontown and White Deer. About $100,000.

Fla., Palm City—Bd. co. comrs. plan to build bridge over St. Lucie River. Address Co. Clk., West Palm Beach.

O., Barberton—A. Davies, dir., soon receives bids viaduct on East Tuscarawas Ave. to be built by city, Baltimore & Ohio R.R., Cleveland, Akron & Cincinnati Ry., and Akron-Barberton Belt Line R.R. Estimated cost, $250,000, of which railroad companies will pay $66,000. H. Alcorn, city engr.

O., Columbus—City soon receives bids extension to Rich St. bridge to make it conform with proposed width of new channel. About $80,000. H. Maetzel, city engr.

Ill., Elgin—City preparing plans building bridge on Kimball St. About $60,000. M. H. Brightman, city engr.

Ill., Orangeville—County Supt. Highways prepared plans 80-ft. span bridge across Richland Creek.

Ill., Peoria — (East Peoria) — Village comrs. plan to build bridge over Farm Creek. About $10,000.

Wis., Superior—County soon receives bids grading and installing culverts on South Superior and Olive Rd. About $20,000. W. J. Leader, East End, co. aud.

Minn., Ballclub—County preparing plans building bridge over Mississippi River. About $18,000. F. Sherman, Grand Rapids, co. aud.

Minn., Owatonna—State Highway Comn., St. Paul, approved plans building new Bridge St. bridge. J. H. Brahtz, engr.

S. D., Redfield—County preparing plans building several bridges.

S. D., Watertown—Co. Comrs. plan to build 8 bridges. J. C. Johnson, co. aud.

Utah, Salt Lake City—City plans to build bridge over Jordan River at 4th South and 5th South Sts., and surplus canal at Redwood Rd. About $22,500. S. T. Cannon, city engr.

Utah, Salt Lake City—See "Sewers."

Ore., Hood River—Co. comrs. rejected bids building bridge over Hood River, south of Dee. New bids will be received for Howe truss bridge. About $10,000.

Wash., Yale—Co. Comrs. Vancouver, soon receive bids suspension bridge over Lewis River here. About $15,000. B. L. Dorman, co. engr.

Structural Steel Work (Continued)

Cal., Porterville—City engr. preparing plans bridge over Porter Slough on Main St.

Ont., Arranvale—Grand Trunk Ry. having plans prepared steel bridge. H. R. Safford, Montreal, Que., ch. engr.

Ont., Port Dover—Town Council plans swing bridge. R. Walker, chn.

BIDS DESIRED

N. Y., Niagara Falls—Until June 19 by A. W. Binkley, village superv., building 85-ft. standard highway bridge, 18-ft. roadway.

Pa., Pittsburgh—(Official)—Until June 22 by Allegheny and Beaver Cos. extending arch of Inter-county Bridge No. 1, Sewickley Creek, Fair Oaks Station. J. P. Moore, co. controller.

Fla., Molino—Until June 19 by J. G. White, chn. Escambia Co. comrs., Pensacola, steel bridge across Escambia River.

La., Kinder—Until June 28 by G. M. King, Jr., secy., Allen Parish Supervs., for bridges in connection with road construction in Dist No. 2 and St. Elmo Dist.

Tenn., Brownsville—Until June 27 by J. Tipton, chn. com., building 2 steel bridges over Forked Deer River Canal. D. Meriwether, Jackson, engr.

Minn., Marshall—Until June 18 by E. S. Shepard, co. aud., building 7 bridges on State Rds. Nos. 1 and 2.

N. D., Mandan—Until June 26 by L. Nichola, co. aud., building 4 bridges.

Wash., Duval—(Official)—Until June 26 by Bd. Co. Comrs. bridge across Snoqualmie River. Design "A," 180-ft. riveted steel truss, 1125-ft. approach, 20-ft. roadway, about $34,000; Design "B," 180-ft. wooden Howe Truss, 1125-ft. approach, 20-ft. roadway, about $32,000. T. G. McCrory, bridge engr. Noted Apr. 19.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

Mass., Lynn—County received low bid rebuilding floating bridge on Western Ave. across Glenmere Lake, from D. J. Sheehan Co., 424 Bway., Lynn. About $78,988.

★**O., Dayton**—Co. comrs. let contract building 8 bridges as follows: 5 to E. H. Fauver, 3rd and Detroit Sts., 3 to A. J. Shaffer and H. L. Stine.

★**O., Wilmington**—City let contract 120-ft. bridge over stream between Main and Locust Sts. to Champion Bridge Co., Wilmington.

★**Ind., Laporte**—Co. comrs. let contract building Kumbaugh and Kropel bridges to H. A. Wilholm; substructure Osborn bridge to W. A. Steigely, superstructure to Rochester Bridge Co., Rochester.

★**Ill., Pittsfield**—(Official)—County let contract Weaver Bridge, Pleasant Hill Twp., to Miller & Husband, 302 Workman Bldg., Springfield, $10,675.

★**Minn., Worthington**—County let contract building 5 state bridges to Iowa Bridge Co., 712 Hubbell Bldg., Des Moines.

★**S. D., Parker**—(Official)—County let contract bridges, abutments, and approaches and repairs required for 3 months to Federal Bridge Co., 1122 Equitable Bldg., Des Moines. Noted May 24.

★**Ore., Astoria**—County let contract building 2 bridges over Nehalem River between Jewell and Vesper, to J. H. Tillman, Portland, $19,300.

★**California**—Advisory Bd., c/o State Highway Comn., Sacramento, let contract state highway bridges in Siskiyou County to J. H. May, Napa.

REINFORCED CONCRETE

Proposed Work

Pa., Lancaster—County plans rein.-con. bridges over Conestoga Creek, Manor Twp. and Octoraro Creek, near Holmes Fording.

Pa., Uniontown—County plans double-span rein.-con. bridge over Monongahela R.R. and Brown's Run at Lardin Station on Public Rd. leading from McClellandtown to Masontown. L. V. Phillips, co. solicitor.

Fla., Tampa—See "Railways."

Mich., Detroit—Belle Island Bridge Cons. Bd., composed of M. E. Cooley, F. C. McMath, W. R. Kales, W. E. Riggs, E. Lorch and L. M. Gramp, prepared plans and submitted same to G. H. Fenkell, comr. pub. wks., for new bridge to be constructed of concrete and steel; length bridge proper, 2200 ft., bridge and approaches, 3500 ft., width of roadway, 59 ft., sidewalks, 12 ft., total width, 86 ft., maximum span, 135 ft., number spans 19. Previous estimates stated bridge could be constructed for $2,000,000, but owing to increased cost of material and labor, cost will probably be $4,000,000 to $5,000,000.

Ia., Davenport—City prepared plans building concrete bridge over Milwaukee R.R. on East Locust St. About $12,000. R. E. Sawistowsky, city engr.

Ia., Elkader—(Official)—County rejected bids rein.-con. highway bridge. A. H. Andreae, co. aud. Noted May 17.

Neb., North Platte—City voted $10,000 bonds to build concrete bridge across South Platte River.

Mo., Kansas City—Union Pacific R.R. plans rein.-con. viaduct on James St. on Kansas side to 12th St. in Missouri, extending over Union Pacific tracks in Missouri and over Missouri Pacific tracks in Kansas. About $185,000, of which city will pay $8114. R. L. Huntley, Omaha, Neb., ch. engr. of former R.R. E. A. Hadley, St. Louis, ch. engr. of latter.

Tex., Ft. Worth—G. W. Armstrong, South Hemphill St., and associates, purchased 600-acre site and plan rein.-con. tie and bagging factory. About $150,000.

Colo., Ft. Collins—City plans rein.-con. reservoir 50-ft. high, 150,000 gal. capacity, about $17,000. A 30-in. pipe line will be constructed from dam of present supply to proposed reservoir and 11-hp. Leffel water turbine which will drive Baron Jackson centrifugal pump will be installed to pump water up into reservoir. A. A. Edwards, supt.

Cal., Palo Alto—Bd. educ. had plans prepared by Allison & Allison, archts., Hiberian Bldg., Los Angeles, 1- and 2-story, rein.-con. high school.

Sask., Regina—City preparing plans building rein.-con. bridges over Qu'Appelle River near Fairy Hill, and Arm River near Craik. H. S. Carpenter, minister of highways.

BIDS DESIRED

Pa., Hershey—(Official)—Until June 20 by H. W. Gough, co. controller, Court House, Harrisburg, rebuilding bridge over Swatara Creek rein.-con., 3-span.

W. Va., Belva—Until June 26 by Fayette and Nicolas Cos., Belva, for rein.-con. arch bridge across 20 Mile, between 2 counties, 2 55-ft. clear spans, 16-ft. clear roadway and 4 20-ft. wings; bridge capacity, 20-ton roller.

W. Va., Clarksburg—Until June 29 by County for rein.-con. bridge across Elk Creek, Clark Dist. G. M. Harbert, co. road engr.

W. Va., Hamlin—Until July 2 by A. F. Black, co. clk., building 2 concrete or steel bridges.

Tenn., Union City—Until June 21 Obion River D. D. No. 1 for rein.-con. sluiceway, 73 ft. long, 14 ft. wide and 5 ft. deep over all, 4 or 5 single gate and 1 double gate rein.-con. manholes. Morgan Engr. Co., Goodwin Institute, Memphis, engrs.

Ky., Pikeville—(Official)—Until June 20 by Clk. of Fiscal Court, furnishing all labor and materials and righting concrete pier, including concrete foundations, excavations and cofferdam, cleaning old bridge and resetting properly 2 140-ft. and 1 200-ft. spans on piers. C. D. Snead, bridge engr.

O., Canton—(Official)—Until June 20 by Bd. Co. Comrs. building rein.-con. arch-gorge lash bridge, Bethlehem Twp. W. C. Schick, clk.

Minn., Fergus Falls—Until June 22 by County building rein.-con. bridge. W. Lincoln, co. aud.

N. D., Lisbon—Until June 18 by C. E. Best, co. aud., for concrete abutments and wing walls on bridge.

Wash., Olympia—Until June 25 by State Highway Comn. building rein.-con. arch bridge over Walla Walla River on Inland Empire Highway, Sect. 22, Twp. 7, 100 ft. and 2 60-ft. spans.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

Conn., Hartford—State Highway Comn. received low bids building 2 span rein.con. bridge over Branford River, Branford Twp., from R. D. Daly Co., 6 Church St., New Haven, $6510; H. S. Osborn, Redding Ridge, $9000; Acme Engr. Co., 868 Main St., New Haven, $10,015; 3-span rein.-con. bridge over Hammonsett River, Clinton and Madison Twps., from J. G. Holbrock, Westbrook, $19,197; F. Arrigoni & Bro., $23,541; Acme Eng. Co., 868 Main St., New Haven, $30,010.

★**N. J., Trenton Junction**—Philadelphia & Reading R.R. let contract 2-span rein.-con. plate girder bridge to McClintic-Marshall Co., Morris Bldg., Phila.

★**Wash., D. C.**—Columbia Warehouse & Development Co. let contract concrete storehouse, Pierce and M Sts., to E. H. Moser, Colorado Bldg., $250,000.

★**Pa., Deiblers**—Philadelphia & Reading R.R. let contract 2 rein.-con. and steel double-track bridges to Allentown Constr. Co., 11 North 11th St., Allentown.

★**Pa., Phila.**—Lit Bros. let contract rein.-con. addition to store, 7th and Market Sts., to Keystone State Constr. Co., Pennsylvania Bldg., $1,000,000.

★**Pa., Phila.**—(Official)—American Insulation Co., 67 North 2nd St., let contract through Peuckert & Wunder, archts., for rein.-con. plant, Roberts Ave., Stokley St. and Pennsylvania R.R. to W. Steele & Sons Co., 1600 Arch St.

★**Va., Norfolk**—Virginia Railway Co. let contract concrete and steel work in connection with improvements to provide for additional dumping facilities for coal pier to Virginia Bridge & Iron Co., Norfolk, J. P. Pettyjohn & Co., Lynchburg, and Wellman-Seaver-Morgan Co. About $673,000.

★**Ind., Mishawaka**—(Official)—County let contract rein.-con. bridge on Mishawaka Ave., to Kuert Contr. Co., 608 Majestic Bldg., Indianapolis, $83,975. Noted May 10.

★**Ind., Shelbyville**—County let contract bridge in Moral Twp. to Natl. Concrete Co., 804 Traction Terminal, Indianapolis, $11,000.

★**Kan., Weir**—City let contract concrete bridge in 1st St. to J. Craddock.

★**Wash., Montesano**—Co. Comrs. let contract rein.-con. bridge over Humptulips River to Croxson-Kirk Co., Securities Bldg., Seattle, $10,000.

★**Ore., Eugene**—(Official)—Co. Comrs. let contracts rein.-con. bridge work as follows: Gallagher Bridge to W. O. Hickart; Stafford Bridge to L. N. Rooney; Shortridge Bridge and Paschilki Bridge to G. W. Breiding; culvert to W. L. Hubbell. About $10,269. Noted May 24.

★**California**—State Highway Comn., Sacramento, let contract building rein.-con. bridge over Little Castle, Greenhorn and Yreka Creeks, Siskiyou Co., to J. H. May, Napa. Noted May 4.

★**Que., Adamsville**—Muncipal Council let steel contract for $10,900 concrete and steel bridge to Dominion Bridge Co., Lachine.

★**Que., Montreal**—American Can Co. let contract 5-story, 100 x 300-ft. rein.-con. factory to Norcross Bros., Worcester, Mass.

STREETS AND ROADS

Proposed Work

R. I., Providence—Water Supply Bd., Providence, rejected bids building 3.4-mi highway. F. E. Winsor, Providence, ch. engr. Noted May 4.

Connecticut—See "Structural Steel."

N. J., Camden—City plans to pave and elevate portion State St. About $30,000. L. E. Farnham, city engr.

N. J., East Orange—City plans to pave portion South Clinton St., bituminous concrete. W. D. Willegerod, city engr.

N. J., Mt. Holly—Bd. Freeholders receiving bids in July building concrete road from Pemberton to Lewiston.

N. J., New Brunswick—Bd. Freeholders sold $461,000 bonds to pave streets and roads; plans include paving Ferry St., South River, asphalt. A. B. Fox, 137 Smith St., Perth Amboy, co. engr. Noted Apr. 19.

N. J., Newton—Bd. Freeholders plan to purchase 30,000-gal. tarvia for road surfacing and 3000-gal. glutin for Newton-Stanhope Rd., also to build new road from Sparta Ave. to Drake's Pond.

N. J., Newton—Bd. Freeholders appropriated $88,000 to build roads in county; to include Sparta-Ogdensburg Rd. and Ross's Corner-Sussex Rd. H. Snook, co. engr. Noted Apr. 19.

N. J., Roosevelt—City soon lets contract paving Fitch and Randolph Sts., also Central Ave., concrete.

Del., New Castle—City plans election to vote on $25,000 bonds to build roads.

Md., Baltimore—City Paving Comr., 214 East Lexington Ave., plans to pave portion Saunders and Covington Sts. R. M. Cooksey, city engr.

Streets and Roads (Continued)

Md., Cumberland—City soon receives bids repaving streets, brick on concrete base. R. Rizer, city engr.

Va., Staunton—City plans to construct monolithic sidewalks on portion Frederick St.; also pave Middlebrook Rd. within city limits.

W. Va., Martinsburg—City receives bids about Sept. 1 paving streets, brick, asphalt or macadam, concrete curb and gutter. About $115,000. E. D. Bromley, city engr. Noted May 17.

W. Va., Wellsburg—County rejected bids building 9.2-mi. road, brick, bituminous or asphaltic concrete. C. A. Eichelberger, co. engr. Noted May 4.

Fla., Key West—Bd. co. comrs. plans to build 60-mi. hard surfaced roads in Key Largo, Pine Key, Stock Island and Cape Sabell. About $150,000.

Fla., Quincy—City having plans prepared by J. B. McCrary Co., 3rd Natl. Bank Bldg., engrs., Atlanta, paving 29,300 sq.yd. streets. About $50,000 to $60,000.

Miss., Carthage—County plans to build 10-mi. gravel road.

Miss., Cleveland—County plans to build 33 mi. graveled roads. G. H. Stephen, comr.

Miss., Indianola—County voted $100,000 bonds to improve roads in Beat No. 5.

Miss., Jackson—Bd. Supervs. soon lets contract grading and graveling roads in county. W. W. Downing, chancery clk.

Ky., Louisville—Council plans to pave portions A St., asphalt, vitr. block gutter and concrete curbs; Central Ave., vitr. block. D. R. Lyman, city engr.

O., Akron—City plans improving portion East Ave. by constructing sidewalks, sewers and sewer laterals. J. A. Gehres, city engr.

O., Alliance—City plans to grade and build stone or concrete sidewalks on portion Pike St. W. Shectler, city engr.

O., Bryan—County sold $333,400 bonds to improve roads in various townships. G. C. Beucler, aud. Noted May 4.

O., Cincinnati—City plans to pave and improve Eastern and Freeman Sts. F. Krug, city engr.

O., Cleveland—Co. comrs. plan to improve 1½-mi. Harvard Rd. About $47,433.

O., Cleveland—County to sell $35,725 bonds June 27 to improve Windfall Rd. E. G. Krause, clk.

O., Cleveland—City plans to pave and improve portion West 18th St. R. Hoffman, city engr.

O., Cleveland—City plans to pave portions Nordica and East 86th Sts., also repave portion Archwood Ave. R. Hoffman, city engr.

O., Columbus—Council authorized $75,000 bond issue to widen High St. H. Maetzel, city engr.

O., Coschocton—City plans to pave portions Orange, South 6th, McCain, Sycamore and South 3rd Sts., also Hamilton Ave. A. Fisher, city engr.

O., Elyria—City plans to pave portion West and Park Aves., Grant, Ohio and Glenwood Sts. C. M. Theobald, city engr.

O., Fremont—City to sell $19,445 bonds, June 26 to improve portion North Front St. C. A. Hochenedel, city engr.

O., Hamilton—City plans to pave, curb, gutter and install sewers in portion Grand Blvd. F. E. Weaver, city engr.

O., Toledo—Council plans to pave and improve St. John, Stickney, Plymouth, Huron, Maunee, Adams and Dorr Sts. H. McKechnie, city engr.

O., Warren—County to sell $113,250 bonds, July 2, to improve roads. W. Fahr, clk.

Ind., Fortville—See "Sewers."

Ill., Rock Island—City plans to pave 11th and 18th Sts. and 22nd Ave. About $13,023. W. Treichler, city engr.

Ill., Waukegan—Council plans to pave portion North Ave. About $33,637. M. J. Douthitt, city engr.

Ia., Mason City—City preparing plans paving road from Mason City to Clear Lake. About $65,000. B. C. Way, pres. chamber of commerce, interested.

Ia., Mount Ayr—State and U. S. Government to appropriate $40,000 to build roads in county. E. E. Cornwall, co. aud.

Minn., Aitkin—County plans to gravel and improve State Rural Highway No. 10B, Federal government to appropriate $20,000 toward cost.

Minn., Duluth—City plans to pave portion 11th Ave., E, cost, $26,700; 54th Ave., W, $13,258; opening Farrell Rd. extension, turnpiking portion 11th St., $19,062; portion Ramsey St., $8820; improving portion Cook St. and turnpiking portion Faribault St. L. Ayers, city engr.

Minn., St. Paul—Council approved plans paving Arkwright St., Brainerd and Igelhart Aves. O. Claussen, city engr.

Kan., Gypsum—Town plans to pave Main St.

Kan., Hutchinson—Co. comrs. soon let contract paving Arkansas River bridge. W. B. Harris, co. engr.

Kan., Hutchinson—City plans paving, grading and guttering all Crescent Park addition, portion 17th, 19th and 20th Sts., curbing and guttering portion Plum, 8th and Poplar Sts. G. L. McLane, city engr.

Neb., Grand Island—City sold $50,000 bonds to pave streets.

Neb., Kearney—City comrs. created new paving district and plans to pave 18 blocks. E. H. Morely, city engr.

Wyo., Casper—Town having plans prepared paving various streets.

Mo., Charleston—County plans election to vote on $500,000 bonds to build roads.

Mo., Eminence—County election June 30 to vote on $150,000 bonds to build roads.

Mo., Springfield—City plans to pave portion Main St., brick. O. D. Christman, city engr.

Ark., Jonesboro—State Highway Dept., Little Rock., making surveys building 30 mi. road in county from Jonesboro to Poinsett Co. line.

Tex., Athens—County voted $20,000 bonds to build roads. Rd. Dist. No. 8.

Tex., Corsicana—State Attorney General's Dept., Austin, approved $16,000 bond issue to build roads in county, Dist. No. 7.

Tex., Newton—(Official)—County defeated $100,000 bonds to build roads, Precinct No. 1, including Deweyville. Noted May 17.

Tex., Wichita Falls—County voted $750,000 bonds to build roads.

Okla., Norman—County defeated $30,000 bonds to build roads in Norman Twp., $18,000 for Little River Twp. Noted Apr. 12.

Utah, Bingham—Council plans to pave Main St., bitulithic.

Utah, Salt Lake City—See "Sewers."

Wash., Goldendale—Council plans to grade, pave, etc., on portions D St. About $15,000. D. Cumming, clk.

Wash., Mt. Vernon—Co. Comrs. plan to spend $56,000 to improve portion Pacific Highway. W. E. Costello, co. engr.

Wash., Port Angeles—City rejected bids paving 2nd and 3rd Sts. New bids. J. L. Beam, clk.

Wash., Seattle—A. H. Dimock, city engr., submitted plans to Council estimating cost paving Howard Ave., N., et. al. at $28,000.

Wash., Spokane—Co. Comrs. plan to pave 2½-mi. road between Newport Highway and Green Bluff. About $20,000. A. R. Scott, co. engr.

Ore., Portland—Council approved plans of P. H. Dater, city engr., installing sewers portion East 69th St.

Oregon—(Official)—State voted $6,000,000 bonds to build and improve roads in counties. Noted May 24.

N. S., Sydney—Council plans to rebuild Charlotte St. R. McKinnon, acting city engr.

Ont., St. Catherines—Council plans to pave Ontario St. W. P. Near, city engr.

BIDS DESIRED

N. Y., Brooklyn—Until June 20th by L. H. Pounds, boro. pres., for regulating, grading, curbing and laying sidewalks on portion East 40th St. and 20th Ave., regulating and paving with permanent asphalt pavement, 6-in. concrete foundation, portions 40th St., Ave. I, 15th and 20th Aves., also furnishing and delivering 60,000 asphalt block, all of which shall have a depth of 2½ in.

N. Y., Long Island City—Until June 20th by M. E. Connolly, boro. pres., regulating, grading, curbing and laying sidewalks, etc., where necessary, portions Purves, McPherson and 40th Sts., 12th, Wyckoff, Kingsland, Fairview and Van Cortland Aves.

N. Y., New York—Until June 15 by M. M. Marks, boro pres., regulating and repaving with sheet asphalt portions Pine, MacDougal, 44th, 48th, 57th and Monroe Sts.

N. Y., New York—Until June 21 by D. Mathewson, boro. pres., for regulating, grading, setting curb, laying sidewalks and crosswalks, building inlets, receiving basins, drains, culverts, approaches and guard rails where necessary in portions East 178th St. and Greystone Ave., paving with bituminous concrete on cement concrete foundation, portion Van Nest Ave., repaving with sheet asphalt on concrete foundation portion Union Ave., installing sewers and appurtenances portion Van Cortland Park S. and Harlem River Terrace, Bronx Boro.

N. J., Newark—Until June 21 by Bd. Pub. Wks. paving 9800 sq.yd. Mulberry St., granite block; 12,000 sq.yd. Meeker and Lehigh Aves., asphalt; 2100 sq.yd. Delevan Pl. and Comes Alley, brick. M. R. Sherrard, city engr.

N. J., Rahway—(Official)—Until June 26 by Common Council, setting and resetting curb on both sides of Westfield Rd. in concrete from St. George's Ave. to Madison Ave.; advertised in this issue.

N. J., West Orange—Until June 19 by Street Com. for laying concrete or flagwalks during year. G. W. Foster, town clk.

Pa., Lebanon—(Official)—Until June 21 by D. M. Sharp, city clk., paving various streets; advertised in this issue.

Pa., Reading—(Official)—Until June 20 by city clk. paving and constructing trunk line sewer, under Contracts Nos. 1, 2 and 3; advertised in this issue.

Md., Frederick—Until July 2 by Co. Comrs. building section Lewiston-Creagerstown Rd. About 5 mi. H. L. Gaver, clk.

W. Va., Adamston—Until June 30 by R. R. Powell, city recdr., paving portion Pike St.

Ga., Griffin—(Official)—Until June 21 by Mayor and Council, grading, curbing, draining and paving certain streets; advertised in this issue.

La., Crowley—Until June 26 by Bd. Supervs. of Acadaia Parish, building 70 mi. metal surfaced roads.

La., Oberlin—Until June 28th by Bd. Supervs., Rd. Dist. No. 2, building roads, including dredging, grading, grubbing, clearing, draining, bridging, etc., as follows: Div. A, 120 stations, Kinder to Calcasieu River; B, 271.62 stations, Kinder to Lauderdale; C, 210 stations, Kinder to Jefferson Davis Parish line; D, 309.73 stations, Kinder to Oberlin Ward line; F, 501.8 stations, Kinder to Indian Village; also Rd. No. 1, 182.86 stations; Rd. No. 2, 210 stations; Rd. No. 3, 154.64 stations, St. Elmo Dist., G. M. King, secy. W. L. Stevens, 312 Whitney-Central Bank Bldg., New Orleans, engr. Noted Apr. 5.

O., Cleveland—Until June 26 by City paving Bulkley Blvd. R. Hoffman, city engr.

O., Cleveland—Until June 26 by City paving portions St. Clair Ave. N. E., and Madison Ave. N. W., also East 55th and West 26th Sts. R. Hoffman, city engr. Noted May 17.

Indiana—By Co. Comrs. for constructing roads as follows:

June 21: Crowns Point, gravel roads, Cedar Creek, Center, Winfield and Eagle Twps. E. Simons, aud.

June 28: Indianapolis, road, Warren Twp. L. K. Fesler, aud.

July 2: Brazil, stone and gravel road on line Posey and Perry Twps. W. O. Graeser, aud.

Williamsport, 2 gravel roads, Prairie Twp., 13,270.5 and 5094 ft. D. H. Moffitt, aud.

Nashville, gravel road, Johnston Twp., stone, gravel and concrete road, Brown Twp. O. Morrison, aud.

July 3: Rochester, road, Rochester Twp. E. A. Smith, aud.

Bloomfield; gravel roads, Stockton and Fairfax Twps. G. E. Kidd, aud.

Salem; 8400 and 8365-ft. road Posey Twp. E. E. Batt, aud.

Albion; brick road, Perry Twp. G. A. Young, aud.

July 14; Rochester; gravel road on line Fulton and Marshall Cos. A. Smith, aud.

Mo., St. Louis—Until June 23 by Bd. Pub. Serv. improving portions Partridge, Arsenal, 15th, Fern and Hydraulic Sts., also improving several alleys. E. R. Kinsey, pres.

Cal., Manhattan—Until June 20 by City for improving 21st, 23rd, Railroad, Grand View and Blanche Sts., also 15 alleys, in-

Streets and Roads (Continued)

volving 139,000-sq.ft. concrete paving, 108,332-cu.yd. excavation, 15,232 lin.ft. redwood header, etc. M. M. Murray, city engr.

Cal., Upland—Until June 25 by city, improving 14 blocks Mountain Ave., plans include 4-in. concrete pavement, ⅜-in. liquid asphalt and screenings surface and stone curbs. C. P. Fuller, city clk.

Ont., York—See "Sewers."

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

Connecticut — State Highway Comn., Hartford, received low bids building roads, Thomaston Twp. from Mascetti & Holley, 561 South Main St., Torrington, $12,647; H. S. Osborn, Redding Rodge, $14,777; Barbara & D'Aurio, 90 Franklin St., Waterbury, $14,950; Old Saybrook Twp., Donahue Bros., 127 Grand St., Middletown, $11,654; F. Arrigoni & Bros., 605 Main St., Middletown, $17,672; Acme Engr. Co., Hartford, $18,027; Naugatuck Boro., H. S. Osborn, Redding Ridge, $10,463. Noted May 24.

N. Y., Long Island City—(Official)—M. E. Connolly, boro. pres., received low bids regulating, grading, paving and laying sidewalks where necessary in portion (a) Review Ave., (b) 6th Ave., (c) Crescent St., from Queen Plaza Contr. Co., Queens Plaza Court Bldg., Brooklyn, (a) $33,406, (c) $28,415; E. W. Fitzpatrick, 128 3rd Ave., Brooklyn, (a) $36,100, (c) $28,633; Hastings Pav't Co., 25 Broad St., New York City, (b) $17,829. Noted May 24.

★N. Y., New York—(Official)—D. Mathewson, boro. pres., let contract completing abandoned contract for improving East 149th St. to J. McAvoy; regulating and grading 203rd St., to Dimenna & Delbalso, 2336 Cambreling Ave.; 156th St., Bathgate and Tinton Aves. to Union Paving Co.; Valentine Ave. to Dabney Asphalt Co., Inc., 52 Vanderbilt Ave. Noted May 24.

★N. J., Jersey City—Blvd. Comrs. let contract paving 2 sections Hudson Blvd. to Clinton Contr. Co., 306 Charles St., West Hoboken, $147,681. Noted May 4.

N. J., Lakewood—(Official)—G. H. Hurlburt, twp. clk., received low bids paving portions Lexington, 4th, East 4th and Clover Sts. from J. F. Burke Co., 718 Monroe Ave., Plainfield, $49,050, C. H. Winans Co., 207 Broad St., Elizabeth, $52,560, E. A. Corson, Ocean City, $53,063. Noted May 17.

★N. J., Newark—Bd. Pub. Wks. let contract paving Abbotsford Ave., bitulithic, Moen Pl., asphalt, to Northern Constr. Co., 665 Broad St., $8665 and $3430 respectively; Oriental Terrace and Oriental Pl., brick to A. J. Milmoe, 83 Littleton Ave., $6517 and $1767 respectively.

N. J., Perth Amboy—Bd. Aldermen received low bids paving Florida Grove Rd. warrenite on concrete base, from Liddle & Pfeiffer, 137 New Brunswick Ave., $20,708; Graham &McKeon, 264 Smith St., $21,682; T. F. Dunigan, 35 Green St., Woodbridge, $21,899.

★N. J., Roosevelt—Boro let contract paving portion E St. to M. Hermann, Roosevelt.

★N. J., Trenton—City let contract paving portion West State St. to C. A. Reid & Co., 623 Monmouth St., $21,000.

★N. J., Westfield—Town let contract improving various streets to Weldon Contr. Co., Rahway. Noted May 17.

★Pa., Grove City—(Official)—L. L. McKay, boro. secy., let contract paving, curbing and grading portions Blaine and 2nd Sts. to J. B. Weaver, Grove City, $13,134. Noted May 17.

★Va., Richmond—City let contract paving several streets, asphaltic concrete, to Central Constr. Co., Colorado Springs, $1.88 sq.yd.

★N. C., Asheville—Co. Comrs let contract building 9¼-mi. Hendersonville Rd. to Clyde Constr. Co., Asheville. About $175,000.

S. C., Charleston—(Official) — City received low bid paving 20,000 sq.yd. sheet asphalt and 1000 sq.yd. creosoted wood block, from Lamson Constr. Co., Essex Bldg., Norfolk, as follows: grading, 15c. per sq.yd., 4-in. concrete base, 85c., 5-in. concrete base, $1.00, 6-in. concrete base, $1.15, 1¼-in. binder, 30c., resurfacing, 70c. Noted May 17.

★Miss., Clarksdale—City let contract 22,000 sq.yd. asphaltic concrete pavement to Memphis Asphalt & Paving Co., Falls Bldg., Memphis; about $75,000 available.

★Tenn., Columbia—City let contract paving $50,000 sq.yd. asphaltic concrete, to Thompson & Graham. About $75,000 available.

Ky., Owensboro—(Official)—City received low bids paving streets, bituminous, from Andrews Asphalt Paving Co., Maple Ave. near East Ave., Hamilton, $46,291; Municipal Contr. Supply Co., Gary, Ind., $46,324; Southern Bitulithic Co., 601 Ind. Life Bldg., Nashville, Tenn., $53,977.

★O., Athens—County let contract surfacing with tar 2-mi. Athens-Nelsonville Rd., to Barrett Co., Illinois Bldg., Cleveland.

★O., Celina—County let contract grading, macadamizing, building culverts, etc. on roads as follows: Christ Weitzel Rd., Gibson Twp. to G. F. Spar, Burkettsville; Albers Rd., Union Twp., to J. H. Gels, St. Henry; Baltzell Rd., Union Twp., to Putman & Putman, Ohio City; Trissle Rd., Liberty Twp., to A. Kindler, St. Henry.

★O., Cleveland—Co. comrs. let contract paving in Brookpark, Brooklyn and Parma Twps. to McHugh Bros. Constr. Co., Springfield, $57,000.

★O., Cleveland—City let contract paving portion Hilgret St. to Cleveland Trinidad Paving Co., The Arcade, $22,534; Bertha and West 99th Sts. to Roehl Bros., West 25th and Lorain Sts., $34,570; East 110th St. to Enterprise Paving & Constr. Co., 8436 Bway, $4682.

★O., Cleveland—Co. Comrs. let contract paving Brook Park Rd., Brooklyn and Palmer Twps., to McHugh Bros. Constr. Co., Springfield, $57,000.

★O., Cleveland—(Official)—City let contract improving Forest Hill Pkway. to G. E. Whitehouse, 6402 Beaver St., $12,138. Noted May 17.

★O., Defiance—Co. comrs. let contract improving Auburn-Defiance Rd. to F. Newill, $75,460. Noted May 31.

★O., Mansfield—County let contract improving 3-mi. Mansfield-Millersburg Rd. to Ohio Concrete Constr. Co., $50,000.

★O., Newark—City let contract paving and improving Coshocton St., brick to Kieley & Son & Bolin, Newark, $19,669.

★O., Steubenville—(Official)—Ross Park Realty Co. let contract improving property by laying brick pavement, concrete base, grout filler, etc., to H. M. Bates, Steubenville, $35,341. Noted May 24 under Sewers.

★O., Toledo—City let contract paving portions Colburn and Chapin Sts., to Asphalt Block Pav't Co., 842 Ohio Bldg., $16,955; Dale St. to A. A. Reilly, $14,369.

★Ind., Bloomfield—Co. Comrs. let contract building Patrick Malone Rd., Harrison Twp., to Carpenter Constr. Co., Terre Haute, $53,719.

★Mich., Nashville—(Official)—Village let contract paving and improving portion Main St. to Marsman & Green, Grand Rapids, $28,000. Noted May 17.

★Illinois—State Highway Comn., Springfield, let contract building oiled earth roads, Henry Co. to Cameron, Joyce & Co., Keokuk, Ia., $23,215; earth road, McDonough Co., to Buis & Olson, St. Joseph, Mo., $3995; earth roads, Jefferson Co. to Collins & Irons, Mt. Vernon, $8259. Noted May 24.

★Ill., Chicago—Co. comrs. let contract improving 19-mi. Higgins Rd., to Improv. Co., 179 West Washington St., $448,000.

★Ill., Jacksonville—Bd. Local Improv. let contract paving 15,506 sq.yd. asphalt, 9028 lin.ft. curbing, 2694 cu.yd. excavation, etc. to Standard Paving Co., 29 South La Salle St., Chicago, $38,127.

★Ill., Joliet—City let contract paving portion Marion St. to F. W. Conway, 133 West Washington St., $30,219.

★Ill., Ottawa—City let contract loop paving to J. Cherry, Jacksonville, $108,761.

★Wis., Marinette—City let contract paving Gilbert, Morgan and Jackson Sts., and Terrace Ave. to Carlin & Magnusson, $27,227.

Wis., Milwaukee—Bd. Pub. Wks. received low bids (a) paving, (b) grading, (c) curb and gutter, (d) sidewalks on various streets, from White Constr. Co., Milwaukee, Midland Ave., (a) $2.20, (b) $1.15, (c) 15c., (d) 15c.; F. P. Coughlin Co., Milwaukee, Hartford Ave., (a) $2.21, (b) 50c., (c) 60c., (d) 15c.; 17th St., (a) $2.21, (b) 75c., (c) 65c, (d) 16c.; Badger Constr. Co., Milwaukee, Cramer St., (a) $0.235; North Ave., removing old pavement, per sq.yd., new paving $0.151, curb and gutter, $1.60.

★Ia., Mason—City let contract paving streets, asphalt, to Bryant Asphalt Paving Co., Waterloo.

★Minn., Duluth—City let contract paving portion 2nd Ave. to Rodgers & McLennan, 601 1st Nat'l Bank Bldg., $24,395.

★Minn., Moorhead—City let contract paving 7th and 8th Sts. to C. T. Welch & Co., 2628 Humboldt Ave. S., Minneapolis, $37,995.

★Neb., Fairbury—(Official)—City let contract paving streets to Roberts Constr. Co., Lincoln, $2.27 per sq.yd. Noted May 31.

★Ark., Walnut Ridge—City let contract building 22-mi. road, Dist. No. 1, to N. Gregory, Texarkana, $110,000.

★Tex., Bonham—(Official)—County plans to improve roads, Hail Rd. Dist., by day labor. About $12,000. Noted May 17.

Colo., Pueblo—City received low bids paving streets, South Side Paving Dist., from Axton-Spratlen Constr. Co., Denver, $307,925.

★Idaho, Lewiston—Highway Comrs. let contract building 4½ mi. roads between Uniontown and Genesee and 5 mi. from Lewiston along Clearwater River to Mitchell Bros., Spokane, $68,073.

Washington—(Official) — State Highway Bd., Olympia, received low bids building 7.25-mi. Inland Empire Highway from Bernard & Grousoup, Richland, $22,800; Mitchell Bros., Spokane, $24,395; Keating & Jameson, Portland, $29,640. Noted May 17.

Wash., Bellingham—Co. Comrs. received low bids paving Mountain View Highway from K. Sauset, 711 Carolina St., $91,450; Ferguson Constr. Co., White Bldg., Seattle, $91,936; C. E. Lind, 1639 Humboldt St., $95,463.

Wash., Bellingham—Co. Comrs. received low bids paving Ferndale-Lynden Rd. from K. Sauset, 711 Carolina St., $108,202; Independent Asphalt Co., North Bank Bldg., Seattle, $113,863; Ferguson Constr. Co., White Bldg., Seattle, $117,422.

★Wash., Goldendale—Co. Comrs. let contract paving Goldendale-Glenwood Rd. to W. Liedl, Goldendale, $13,000.

★Wash., Montesano—Co. comrs. let contract paving 2¼-mi. Olympic Highway to Gray Harbor Constr. Co., Hoquiam, $40,426.

★Wash., Sedro Wooley—City let contract paving Nelson and Bennett Sts. C. L. La Plant, Sedro Wooley, $14,240. Noted Apr. 19.

★Ore., Huntington—See "Sewers."

★Ore., Marshfield—City let contract hard surfacing portion Central St., concrete, to Moon & Gidley, Marshfield, $39,886.

★Cal., Santa Barbara—City let contract paving, grading and curbing portion Bath, De La Vina and Montecito Sts. to Fairchild-Gilmore-Wilton Co., Pacific Electric Bldg., Los Angeles, $84,426.

★Cal., Santa Paula—City let contract improving Santa Paula, Mill and other streets to Fairchild-Gilmore-Wilton Co., Pacific Electric Bldg., Los Angeles, $53,000.

RAILWAYS—STEAM & ELECTRIC

Proposed Work

Maine—Burgess, Lang & Co., 201 Sears Bldg., Boston, promoting company to construct electric railway from South Newcastle to Boothbay Harbor.

New Jersey — Pennsylvania R.R. purchased 63 acres along Nottingham Way, Trenton, and will lay additional trackage. A. C. Shand, Broad St. Station, Phila., ch. engr.

Maryland — Pennsylvania R.R. plans branch from Back River, near Baltimore, to Bear Creek on Baltimore & Sparrows Point R.R., about 3¾ mi. A. C. Shand, Broad St. Station, Phila., ch. engr.

Georgia—Atlanta, Birmingham & Atlantic Ry. having surveys made extension from Waycross to Jacksonville, about 75 mi. L. I. Beall, 30 Columbia Ave., Atlanta, ch. engr.

Florida—Tampa, Atlantic & Gulf Ry. plans 285-mi. railway from Tampa to east

Railways—Steam and Electric (Continued)

coast and from Tampa to gulf coast, to include 7 draw bridges, span 50 x 75-ft.; and 6-mi. concrete protected trestle located in 3 bridges. E. Walker, Tampa, secy. and treas.

Louisiana—Baton Rouge, Hammond & Eastern R.R. plans extension from Covington, La., to Gulfport, Miss., about 55 mi. Address A. S. Baldwin, Chicago, ch. engr. Illinois Central R.R.

Kentucky—Illinois Central R.R. will reduce grades and improve alignment on 55-mi. line from Princeton to Central City; also build 2nd track. A. S. Baldwin, 135 East 11th Pl., Chicago, ch. engr.

Iowa—Lafflet Electric Ry., recently incorporated with $300,000 capital stock, plans line from Pella to Wabasha. D. S. Umbenbauer, 932 Park St., Grinnell, pres.

Texas—Dallas Southwestern Traction Co. soon begins construction on line from Dallas to Irving and Cleburne. G. A. Kadine, Sapulpa, supt.

Oklahoma—Henryetta-Dewar Kusa Traction Co., incorporated with $350,000 capital stock, plans electric railway between Henryetta, Dewar and Kusa. B. Morgan, G. W. Burnett, J. J. Harrison, H. R. Christopher, L. E. Drummond of Dewar and M. Henderson, Kusa, incorporators.

Oklahoma—Osage County & Santa Fe Ry. receiving bids in about 30 days for line from Ralston to Owen, 62 mi. Address C. F. W. Felt, ch. engr., Atchison, Topeka, & Santa Fe R. R., Chicago, Ill.

Idaho—Oregon-Washington Railroad & Navigation Co. will soon begin construction on track-raising and ripraping roadbed for 20 mi., between Harrison and Enaville, to guard against floods. S Murray, Portland, ch. engr.

Wash., Seattle — City Comn. granted franchise to Port of Seattle Comn. to construct belt line railway along East Marginal Way from Spokane St., about 5 mi. C. E. Remsberg, secy. Noted Apr. 12.

California—Tri-City Ry. soon receives bids trolley line on Rock Island Arsenal. About $50,000. J. G. Huntoon, 125 West 3rd St., vice pres. and gen. mgr.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Pennsylvania**—Pennsylvania R.R. let contract 10-mi. line from Besco near Clarksville up South 10 Mile Creek or to Homeville, to A. L. Anderson & Sons, Phila.

EXCAVATION AND DREDGING

Proposed Work

N. J., Cape May—(Official)—Dredging—Cap May Real Estate Co. plans, several million yards, also other improvements, as extensive Government operations are expected at this port.

N. J., Trenton—Dredging—State Dept. Commerce and Navigation will readvertise for bids dredging 2nd section of canal connecting Barnegat Bay with Manasquan River. Noted May 24.

Ky., Owensboro — Drainage — Comrs. Panther Creek D. D. soon let contract system to drain 65,000 acres. About $400,000.

Minn., Gaylord—Ditches — County sold $17,500 bonds to construct Judicial Ditches Nos. 5 and 6. F. Hoppenstedt, co. aud.

Minn., Montevideo—Ditch—County will sell $40,000 bonds to build County Ditches Nos. 21, 22, 27 and 33. J. J. Stennes, aud.

Mont., Helena—Canals, etc.—J. H. Smith, state engr., recommends construction of new canals and laterals on part of Mountainhome Coöperative Irrigation Co.'s system.

Tex., Mercedes—Irrigation,—American-Rio Grande Land & Irrigation Co. plans system around city, involving 350,000-cu.yd. dirt removal. About $50,000.

Ariz., Phœnix—Dam, etc.—W. J. Murphy, Phœnix, plans to construct dam across Gila River north of Gila Bend, and laterals from canal system to irrigate 75,000 acres.

Cal., Imperial — Irrigation — Laguna Water Co. authorized by Federal Government to take water from Colorado River at Laguna dam and construct canal to carry water for irrigating about 180,000 acres on "east side mesa," region northeast of lands served by Imperial Irrigation Dists. system which is too high to be reached by that supply.

Ont., Tilbury—Drainage—Twp. plans tile drainage work. About $100,000. H. J. Rocheleau, Stony Point, clk.

BIDS DESIRED

Fla., Arcadia—(Official)—Drainage—Until June 30 by E. B. Wilcoken, pres. bd. supervs., 33-mi. open drainage, ditches, requiring about 438,000-cu.yd. excavation. Cravens & Kimmel, Parker Bldg., engrs.

La., Oberlin—See "Streets and Roads."

La., St. Landry—(Official)—Until June 18 by C. F. Boagni, pres., Bayou Mallet and Plaquemine D. D., excavating 42.2-mi. ditch, bottom ranging from 6- to 28-ft., containing about 518,000-cu.yd. dirt. R. M. Hollier and W. B. Robert, Opelousas, engrs.

Tenn., Union City—See "Reinforced Concrete."

Ind., Frankfort—(Official)—Ditch—Until June 16 by W. E. Lowman, drainage comr., Court House for Charley Smith Ditch.

Ill., Onarga—(Official)—Drainage—Until June 20 by Drainage Comrs., Sub-Dist. No. 1 of Union D. D. No. 3, Artesia and Ridgeland Twps., for drainage work.

Minn., Austin — (Official) — Excavation, etc.—Until June 30 by A. C. White, co. engr., Court House, for 12,000-cu.yd. excavation, 17,000 cu.yd. borrow, 27,000 cu.yd. side borrow, 1000 cu.yd. side ditching, 1700 lin.ft. tiling.

Minn., Benson—Ditch—Until June 26 by D. P. Carney, co. aud., for Judicial Ditch No. 9, main ditch, 9 mi. long, 8- to 10-ft. wide at bottom, average depth, 9 ft.; 3 laterals, total length, 4 mi., bottom width, 8 ft.; about 337,795 cu.yd. excavation. S. B. Gardner, Benson, engr.

Minn., Mora—Ditching—Until June 19 by A. V. Sander, co. aud., for 6400-ft. side ditching and 1760-cu.yd. excavation.

S. D., Madison—Ditches—Until June 19 by Bd. Co. Comrs. for Lake Co. Drainage Ditches Nos. 5 and 6, involving 21,000 and 47,100 ft. tile various sizes, respectively. L. F. Hartwick, co. aud.

Wash., Yakima—Drainage—Until June 16 by C. E. Barrett, co. aud., for drainage system in Drainage Improv. Dist. No. 29, excavation, furnishing, laying and backfilling of about 2.04 mi. closed drain, structures and accessories.

Cal., Manhattan — See "Streets and Roads."

Ont., Hullett—Drainage—Until June 28 by J. Fingland, clk., Londerboro, draining Kinburn Swamp Drain and river improvement.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

N. Y., Albany—(Official)—Barge Canal Work—W. W. Wotherspoon, state supt. pub. wks., Capitol, received low bids, Contract "P," Cayuga and Seneca Canal, Sect. 1, constructing concrete cut-off wall below walls of Lock No. 3, Seneca Falls from Foundation Co., 233 Bway., New York City, $76,412; J. Monk & Sons, 82 Beaver St., New York City, $83,497; Lupfer & Remick, Ellicott Sq., Buffalo, $104,712; Contract No. 144, Erie Canal, Sect. 9, constructing 2 concrete bridges over Red Creek, Genesee Valley Park, Rochester, from C. Kiehm, Utica, $43,456, J. F. Leary Constr. Co., Cutler Bldg., Rochester, $43,890, Lathrop, Shea & Henwood Co., Ellicott Sq., Rochester, $45,265; Terminal Contract No. 44, barge canal terminal near East 138th St., Bronx Boro, from G. W. Rogers Co., Inc., 29 Bway., New York City, $193,651 and Phoenix Constr. Co., 41 Park Row, New York City, $211,897. Noted May 3.

★**Mich., Saginaw** — Drain — County let contract Cheboyganing Creek Drain to A. S. Gibson, Ithaca, $60,500.

★**Ill., Jacksonville** — See "Streets and Roads."

★**Ia., Council Bluffs**—Dredging—City let contract dredging portion Indian Creek to E. A. Wickman, 19 Scott St. About $20,000. Noted May 17.

★**Minn., Crookston**—(Official)—Ditches—Co. let contract ditch work as follows: No. 112 and 120 to G. Castle, Crookston, $2435 and $1309 respectively; No. 116 to United Dredging Co., Grand Rapids, Wis., $5564; No. 117 to Union Drainage Co., Crookston, $7645. Noted May 24.

★**Mo., Benton**—Canals, etc.—Big Lake Basin D. D. let contract main canals and laterals to drain Big Lake Basin in Scott and Mississippi Cos. to Sternberg Bros.; tile work to A. J. Wheeler, Charleston.

★**Mo., Cape Girardeau** — (Official) — Ditches—Little River D. D. let contract scraper ditches to Vegelsaug Bros. Constr. Co., Cape Girardeau, $70,000. Noted May 3.

★**Cal., Sacramento**—Dredging—Knights Landing Ridge D. D. let contract dredging cut to drain Colusa Basin to Western Dredging Co., San Francisco, $200,000.

INDUSTRIAL WORKS

Proposed Work

Mass., Lawrence—Robinson Hardware Co., 361 Essex St., plans 2-story, 93 x 100-ft. garage. About $60,000. J. E. Allen, archt., 283 Essex St., soon receives bids.

Mass., New Bedford—Union Street Ry. Co., 814 Purchase St., is having plans prepared for 80 x 115-ft. power station. About $665,000. H. M. Hope, 185 Devonshire St., Boston, Engr.

N. Y., Amsterdam—McCleary, Wallin & Crouse, 55 Lyon St., had plans prepared by F. Sheldon & Sons, archts., Indiana Trust Bldg., Providence, for 3-story factory.

N. Y., New Hampton—B. G. Lewis, comr. dept. correction, Municipal Bldg., New York City, having plans prepared for 1-story, 58 x 308-ft. power house, laundry and store building. About $150,000. C. B. Meyers, 1 Union Sq., New York City, archt.

N. Y., Yonkers—Natl. Sugar Refining Co., foot of Main St., had plans prepared for boiler house About $140,000.

N. J., Paterson—F. L. Atherton Machine Co., 17 Market St., will build 4-story plant on Mill St. About $500,000.

Pa., Phila.—A. Colburn Co., 110 North 2nd St., having plans prepared by Ballinger & Perrott, archts., 17th and Arch Sts., for 8-story warehouse, 5th and Willow Sts.

Pa., Phila.—Pierce-Arrow Tire & Rubber Co. having plans prepared by J. O. Hont, archt., for factory at 21st and Lippincott Sts. About $150,000.

Pa., Warren—Warren Oil Co. purchased 12 acre site and plans blending plant. About $50,000.

Md., Baltimore — Baltimore Tube Co. plans additional unit at plant, 140 x 600-ft. About $500,000. C. W. Morse, pres.

Va., Suffolk—Sea Island Cotton Oil Co., Charleston, S. C., completed plans peanut-oil mill here. About $40,000 or $50,000. P. H. Eve., mgr.

N. C., Spray—Carolina Cotton and Woolen Mills Co. plans 175 x 200-ft. addition.

O., Akron—Bashaw Motor Sales Co., 60 South High St., soon lets contract 3-story, 110 x 116-ft. garage and sales room. About $70,000. G. Ball, 60 West Crozier St., archt.

O., Cambridge—Florentine Pottery Co. completed plans 2-story, 147 x 456-ft. plant.

O., Cincinnati—Davenport Paper Box Co., 239 Main St., had plans prepared by G. W. Drach, archt., 1701 Union Trust Bldg., 100 x 156-ft. factory. About $100,000.

O., Cincinnati—P. W. Drackett & Sons Co., Pickering Bldg., had plans prepared by R. E. Bostrom, archt., Pickering Bldg., for chemical plant, Spring Grove Ave. and Winton Pl. About $100,000.

Mich., Detroit—Booth Fisheries Co., 22 West Monroe St., Chicago, plans 11-story, 235 x 330-ft. cold-storage warehouse in Detroit. J. Scott & Co., archts., 2326 Dime Bank Bldg., Detroit, soon receives bids.

Ill., Chicago—Chicago Fuse Mfg. Co. 1014 West Congress St., plans 7-story factory, Congress and Morgan Sts. About $170,000.

Wis., Milwaukee—Hercules Steel Castings Co., care of F. E. McIntyre, 1102 Wells Bldg., plans 1-story, 70 x 500-ft. plant. About $100,000.

Wis., Milwaukee—R. A. Johnson, 270 Florida St., plans 5-story, 190 x 300-ft. factory. About $500,000. A. G. Zimmerson, archt., 10 South La Salle St., Chicago, soon receives bids.

Minn., Duluth—Ackerman Wheel Co., Cleveland, J. D. Park, Duluth and associates, plan to build aeroplane factory here. About $200,000.

Minn., St. Paul—Crescent Creamery Co., 3rd and Minnesota Sts., plans creamery on Jackson St. between Grove and 14th Sts. About $150,000.

Mo., St. Joseph—Batreall Shoe Co., 4th and Jule St., plans 7-story, brick and stone factory. About $70,000. R. Meir, Lincoln Bldg., archt.

Tex., Toyah—United States Sulphur Co., recently incorporated with $600,000 capital stock, plans sulphur refinery at sulphur mine near here. About $300,000. R. L. Spann, 501-5 Linz Bldg., Dallas, pres.

Tex., Ft. Worth—See "Reinforced Concrete."

Wash., Seattle—Hendricks Mfg. Co. had plans prepared by F. W. Grant, archt., Mehlhorn Bldg., for 100 x 128-ft. machine shop, 1st Ave. S. and Horton St.

Man., Winnipeg—Stewart Shear Loader Co., Ltd., 470 Martin Ave., plans factory to manufacture agricultural implements. About $75,000. J. S. Menzies, mgr.

Ont., Hamilton—Natl. Machinery Co., 72 Wellington St., W., plans plant. About $75,000.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Mass., Malden**—Boston Rubber Shoe Co. let contract mill to Fiske-Carter Constr. Co., 11 Foster St., Worcester, $100,000.

Industrial Work (Continued)

★**Conn., Torrington**—Hendley Machine Co., 105 Summer St., let contract 4-story, 80 x 125-ft. addition to plant to Torrington Bldg. Co., Main St. Noted Apr. 12.

★**N. Y., Geneva**—Patent Cereal Co., care of Mr. Licht, let contract 3-story, 50 x 70-ft. mill to Monarch Engr. Co., Chamber of Commerce Bldg., Buffalo.

★**N. Y., New York**—Metropolitan News Co., 164 Henry St., let contract garage, 47-53 Chrystie St. to H. Besking, 735 Greene Ave., Brooklyn, $100,000.

★**N. J., Newark**—Alcohol Products Co., foot of Blanchard St., let contract plant to F. Kilgus, Inc., 13 South 6th St. About $70,000.

★**Pa., Chester**—Chester Paper Co., care of Scott Paper Co., 7th and Glenwood Ave., Phila., let contract finishing building to Turner Concrete Steel Co., 1713 Sansom St., Phila., $200,000.

★**Pa., Phila.**—See "Reinforced Concrete."

★**Wash., D. C.**—See "Reinforced Concrete."

★**Va., Newport News**—Newport News Shipbuilding & Dry Dock Co. let contract 4-story, 50 x 250-ft. addition to plant to J. Stewart & Co., 30 Church St., New York City. Noted May 24.

★**O., Cleveland**—K. V. Painter, 212 Vickers Bldg., let contract manufacturing building and garage to Ferguson & Flanigan Co., 210 Vickers Bldg., $80,000. Noted May 31.

★**O., Youngstown**—Brier Hill Steel Co., Stambaugh Bldg., let contract extending plant to United Engr. & Fdry. Co., 307 5th Ave., Pittsburgh, $1,000,000.

★**Ill., Chicago**—Melba Mfg. Co., 4237 Indiana Ave., let contract 3-story, 33 x 118-ft. addition to factory and power house to J. P. O'Connor, 189 West Madison St. Noted May 17.

★**Wis., Milwaukee**—E. H. Karreg Co., 278 West Water St., let contract 4-story, 30 x 126-ft. plant, 246 West Water St., to Dahlman Constr. Co., Majestic Bldg. Noted May 24.

★**Minn., Newport**—Farmers Terminal Packing Co., 919 Commerce Bldg., St. Paul, let contract packing plant to S. M. Klarquist & Son, 247 Security Bank Bldg., Minneapolis, $400,000.

★**Wash., Northport**—Northport Smelting & Refining Co. let contract addition to C. L. Graves, 2108 Montgomery St., Spokane, $100,000.

★**Cal., Los Angeles**—W. Garland let contract automobile sales and assembling building to Leonardt & Peck, 721 H. W. Hellman Bldg., $70,000.

★**Que., Montreal**—See "Reinforced Concrete."

★**Man., Winnipeg**—City let contract addition to power plant to Van Hornebeek & Young, 464 Provencher Ave., St. Boniface, $185,370.

BUILDINGS

Proposed Work

Mass., North Attleboro—High School—Bd. Educ. having plans prepared for new high school.

Conn., Hartford—Hotel—New Hotel Co., Inc., recently incorporated with $800,000 capital stock, plans. C. E. Whitney, pres.

Conn., South Norwalk—School—Bd. Educ. plans. About $50,000. J. A. Jackson, archt., 1123 Bway., New York City, soon receives bids. Noted May 24.

N. Y., Buffalo—Parochial School—St. James Congregation had plans prepared by C. Schmitt & Sons, archts., Prudential Bldg., 2-story, 70 x 105-ft.

N. Y., Peekskill—Dormitory—Peekskill Military Academy had plans prepared by F. A. Moore, archt., 52 Vanderbilt Ave., New York City, 3-story, 40 x 100 ft.

N. Y., Syracuse—Schools—Bd. Educ. soon lets contract for Edward Smith and Webster Schools, also addition to George Washington School. About $268,000.

Pa., Doylestown—School—Natl. Farm School plans 2-story addition. About $50,000. H. D. Allman, 1001 Chestnut St., Phila., chn. bldg. com. Magaziner & Potter, archts., 603 Chestnut St., Phila., soon receives bids.

Pa., Minersville—School—School Bd. plans, (2). About $100,000.

Pa., Phila.—Church—1st Reformed Congregation plans, 50th and Locust Sts. About $150,000.

Pa., Phila.—Hospital—Council authorized appropriation of $388,000 for improvements and extension to city general hospital. C. Albright, city engr.

Pa., Phila.—Office—Mershon Bros., Land Title Bldg., plans, 12-story, brick, stone and terra cotta, 65 x 145-ft., Chestnut St. F. Webber, Morris Bldg., archt.

Cal., Palo Alto—See "Reinforced Concrete."

Cal., Richmond—Office—Standard Oil Co. of California plans, brick and steel. About $140,000.

BIDS DESIRED

Conn., Ansonia—Bank—Until June 16 by Ansonia Natl. Bank, 165 Main St., 1-story, graphite limestone or art stone. About $60,000. Mowbray & Uffinger, 56 Liberty St., New York City, archts. Noted June 7.

N. Y., Batavia—School—Until June 18 by Union Free School Dist. No. 2. About $200,000.

N. Y., Syracuse—School—Until June 25 by Bd. Educ., 1-story, 115 x 169-ft. About $110,000. Russell & King, 602 Snow Bldg., archts.

N. J., Bordentown—School—Until June 22 by F. H. Bent, state archt., Trenton, for Manual Training and Industrial School for Colored Youths.

Fla., St. Augustine—(Official)—Hospital—Until June 23 by Trustees Flagler Hospital, 3-story, brick and rein.-con. About $100,000. F. A. Hendrich, 26 Cathedral St., archt.

O., Cleveland—(Official)—School—Until July 9 by Bd. Educ., Rockwell Ave. and East 6th St., for 3-story, 75 x 175-ft. Gladstone School. About $200,000. F. G. Hogen, dir. W. R. McCormick, Rockwell Ave. and East 6th St., archt. Noted May 10.

O., De Graff—School—Until June 25th by S. Siegenthaler, clk., bd. educ. Harrison School Dist.

O., Mt. Vernon—(Official)—Hospital—Until June 26 by Ohio Bd. Administration, Oak and 9th Sts., Columbus, for Ohio State Sanitorium. Richards, McCarty & Bulford, Hartman Bldg., Columbus, archts.

O., Portsmouth—Grade School—Until June 25 by W. C. Haxelbach, clk. bd. educ., Royal Assn. Bldg., 2-story. About $60,000. Ritter & Bates, 45 1st Natl. Bank Bldg., archts.

Ia., Nevada—Home—Until June 25 by County 2-story, brick, stone and concrete. About $70,000. F. E. King, aud. Damon & O'Mera, 14 Mason Bldg., Ft. Dodge, archts. Noted May 3.

Ia., Traer—(Official)—School—Until June 29 by Bd. Educ. About $85,000. T. F. Stoakes, secy. G. L. Lockhart, 391 Endicott Bldg., St. Paul, archt.

Minn., Ironton—Grade School—Until June 23 by P. N. Haughtelin, supt. ind. school dist. No. 51, 2-story. About $100,000. E. F. Broomhall, 710 Alworth Bldg., Duluth, archt. and engr.

Kan., Augusta—School—Until June 25 by Bd. Educ., brick and stone. About $55,000. G. Watson, clk. Noted May 17.

Kan., Larned—Court House—Until June 26, by W. E. Hulse & Co., archts., 1st National Bank Bldg., Hutchinson, 3-story, brick, stone, concrete and steel. About $100,000. H. Dexter, co. clk.

Neb., Hastings—Until June 21 by Bd. Educ. for 2-story, 78 x 139-ft. brick, stone and concrete addition to Lincoln School. About $75,000. H. Davidson, secy.

Neb., Reynolds—School—Until June 20 by W. O. Hall, secy. bd. educ. C. J. Bowell, 719 East 7th St., York, archt.

Ark., Magnolia—School—Until July 1 by School Bd., 2-story, brick. About $50,000. Address W. H. Warnock.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Mass., Boston**—(Dorchester)—School—City let contract, Hutchins and Brookledge Sts., to Murphy Constr. Co., $85,830.

★**Mass., Whitinsville**—Office—Whitins Machine Co. let contract to Stone & Webster Co., 147 Milk St., Boston, $60,000.

★**N. Y., Buffalo**—Parish House—Westminster Presbyterian Congregation let contract to R. E. Williams, 809 Iroquois Bldg., $65,000. Noted May 3.

★**Pa., Harrisburg**—Hotel—Harrisburg Hotel Co. let contract Hotel Penn Harris, 11-story, to Nelson & Lewin, 1429 S St., W., Wash., D. C.

★**Pa., Phila.**—School—St. Agatha's Congregation let contract, stone and concrete, to J. McShain, 1610 North St., $130,000.

★**Pa., Phila.**—Store—See "Reinforced Concrete."

★**Pa., Phila.**—Sunday School—Walnut St. Presbyterian Congregation let contract to J. Johnston, 1721 Ludlow St., $60,000. Noted May 10.

★**Pa., Throop**—High School—Bd. E... let contract to Boland Bros., 425 La...wanna Ave., Olyphant, $100,000.

★**Wash., D. C.**—Theater—Crandall ...ater Co., 9th and E Sts., N. W., let ...tract, 10th St., to F. L. Wagner, 141... St., N. W. About $125,000. Noted Apr. ...

★**O., Cuyahoga Falls**—Schools—Bd. E... let contract additions, to Drummond & ...ler, Electric Bldg., Cleveland, $50,000.

★**O., Van Wert**—School—Ridge T... School Bd. let contract to Handsby & S... Zanesville, $55,000.

★**Ind., West Lafayette**—(Lafayette ... O.)—Armory—Purdue University let ...tract to L. Colvin, Anderson, $250,000. Noted May 10.

★**Mich., Tecumseh**—Grade and High School—Bd. Educ. let contract to V. ... Gettins, 521 Darr St., Toledo, $75,000.

★**Ill., Chicago**—Bank—University State Bank let contract 2-story, brick, to R. Schlitt & Sons Co., 73 South Adams St., $75,000.

★**Wis., Appleton**—Chapel—Lawrence College let contract to C. R. Meyers, 50 State St., Oshkosh. About $80,000 or $100,000.

★**Wis., Marshfield**—Hospital—Trustees St. Joseph's Hospital Assn. let contract addition to Wagner & Baumann, Monroe, $175,000.

★**Ia., Mason City**—Church—Congregation of Church of Christ let contract to W. O'Neil & Sons Co., Faribault. About $75,612.

★**Minn., Northfield**—Women's Bldg.—Carleton College let contract to H. N. Leighton Co., 127 South 10th St., Minneapolis, $75,000.

★**S. D., Redfield**—(Official)—School—Bd. Educ. let contract to H. F. Stolte, Redfield, $67,333. Noted May 10.

★**Mont., Helena**—Theatre, Store and Office—J. A. Van Wie, Hotel Leamington, Minneapolis, let contract to H. C. Thompson, Great Falls, $200,000.

★**Tex., Sour Lake**—School—Bd. Educ. let contract to M. C. Bowden, 1801 C St., Galveston, $85,000. Noted May 17.

★**Ore., Enterprise**—High School—Bd. Educ. let contract to J. Almeter, Portland.

Cal., Sacramento—School—City received low bid Washington School from H. S. Williams, Hearst Bldg., $238,216.

★**Cal., Santa Barbara**—Club—Santa Barbara Club let contract to Winter & Nicholson, 705 Marsh-Strong Bldg. About $95,000 or $100,000.

FEDERAL GOVERNMENT WORK

Proposed Work

N. J., Wrightstown—Camp—U. S. Government soon receives bids for mobilization camp, including electric-light plant, mess halls, barracks, storehouses, stables, shops, hospital and rifle range, covering about 4000 acres. Estimated cost $1,000,000.

Wash., D. C.—Bridge—Dist. Comrs. rejected bids 7-span steel plate girder bridge on Bennings Rd. New bids. Noted June 7.

O., Washington C. H.—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., rejected bids. Noted May 31.

Wyo., Cody—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., rejected bids. Noted May 24.

Ark., Prescott—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., rejected bids. Noted May 31.

Cal., Linda Vista—(San Jose P. O.)—Camp—U. S. Army Dept. selected 8000-acre site near here for training camp for new army to be raised. Construction work will be started as soon as formalities of executing lease with Government have been completed. City of San Diego will construct roadways to site and provide water, gas and electricity. Atchison, Topeka & Santa Fe R.R. will construct spur track to camp. About 2000 buildings will be erected to accommodate 30,000 troops, 30,000,000-ft. lumber will be required and labor will amount to $200,000.

BIDS DESIRED

Mass., Newburyport—Post Office—Until July 16 by J. A. Wetmore, superv. archt., treas. dept., Wash.

R. I., Newport—Power Plant—Until June 18 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., furnishing and installing turbo-alternators, condensers, pumps, exciters, boilers, stokers, draft fans, and piping for power plant at Naval Training Station.

N. Y., Buffalo—Superstructure—Until July 10 by U. S. Engr. Office, Buffalo stone-concrete superstructure on breakwater, Buffalo Harbor; advertised in this issue.

Federal Government Work (Continued)

Del., Wilmington—Dredging—Until July 5 by U. S. Engr. Office, Wilmington, dredging Toms River and Abasecon Creek, N. J.; advertised in this issue.

Md., Annapolis—Artesian Well — Until June 25 by Bureau Yards and Docks (F. R. Harris, ch.) Navy Dept., Wash., for constructing at Naval Academy.

Wash., D. C.—Bridges—Until June 16 by O. P. Newman, dist. comr., 2 bridges on line of 61st St., between Southern Ave. and Clay St.

Wash., D. C.—Repair Shop—Until June 25 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., for addition to nautical instrument repair shop at Naval Observatory.

Cal., Vallejo—Storehouse—Until June 25 by Commandant, Navy Yard, Vallejo, for rein.-con. general storehouse.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

Mass., Ft. Andrews—Reservoir—Constructing Quartermaster, Ft. Warren, Boston, received only bid 300,000-gal. concrete reservoir, from Hallett-Grant Constr. Co., 136 Federal St., Boston, $18,149. Noted May 24.

★Conn., New London — Wharf — U. S. Coast Guard, Wash., let contract pile and timber wharf at Coast Guard Academy to Robins-Ripley Co., 50 Church St., New York City, $15,000. Noted June 7.

★Pa., Berwick—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., let contract to Hagen Lumber Co., Inc., Hickory Mattes St., Scranton, $44,913. Noted June 7.

★Pa., Indiana—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., let contract to W. H. Fissell & Co., 1328 Bway., New York City, $58,700. Noted May 31.

Wash., D. C.—Building—Bureau Yards and Docks, Navy Dept., received low bids extension of Building No. 16, St. Juliens Creek, Va., from J. Seay, Petersburg, Va., $8238; Nichols & Lindemann, Seaboard Bank Bldg., Norfolk, $9494; Penn Bridge Co., Bond Bldg., Wash., $9947. Noted May 31.

Wash., D. C.—Laboratory—Donn & Deming, archts., 808 17th St., N. W., received bids, radio laboratory building for Bureau of Standards, from H. E. Watts Co., Garrett Bldg., Baltimore, $95,000; Melton Constr. Co., Real Estate Trust Bldg., Wash., $93,800. Noted May 24.

Wash., D. C.—Sewers—Dist. comrs. received bids sewers from W. F. Cush, Wash., service sewer; W. H. H. Allen Constr. Co., Wash., Dale Carlia Sewer; W. F. Brenizer Co., 1st St., Stickfoot branch sewer; L. M. Johnston, Arlington, Va., James Creek Valley sewer. Noted Apr. 26.

Wash., D. C.—Shell Houses, etc.—Bureau Yards and Docks, Navy Dept., received low bids, June 4, constructing shell houses, torpedo storehouse, and magazine building at Naval Ammunition Depot, St. Julien's Creek, Va., (a) work, complete, (b) magazine building and 2 shell houses complete, (c) torpedo storehouse, complete, (d) magazine building, (e) deduct from (a) if galvanized sheet steel is used in lieu of copper, (f) add to or deduct from for one or more interior bays added to or deducted from magazine building and each shell house in (b) from M. J. Roche Constr. Co., 301 Johnson Bldg., Cincinnati, (a) $110,850, (b) $79,590, (c) $31,560, (d) $26,700, (e) $1177, (f) $2209; Penn Bridge Co., Bond Bldg., Wash., (a) $111,433, (b) $77,663, (c) $33,770, (d) $25,887, (e) $3106; J. Seay, Petersburg, Va., (a) $112,430, (b) $83,430, (c) $29,000, (d) $28,630, (e) $600, (f) $2450. Noted May 24.

Va., Norfolk—Fence—Bureau Yards and Docks, Navy Dept., Wash., received low bids from Cyclone Fence Co., Waukegan, Ill., 9-ft. fence, $16,293; 6-ft. fence, $5473; Anchor Post Iron Works, 165 Bway., New York City, $18,668. Noted May 31.

★Fla., Lakeland—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., let contract to Wise Granite & Constr. Co., American Natl. Bank Bldg., Richmond, $45,500. Noted May 31.

Fla., Sanford—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received only bid from A. Blair, Hill Bldg., Montgomery, Ala., limestone, $50,189. Noted May 10.

★Ill., Charleston—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., let contract to G. W. Stiles Constr. Co., Rookery Bldg., Chicago, $46,236. Noted May 31.

Ill., Olney—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids from Michie Constr. Co., 86 Michigan St., Milwaukee, $44,970; G. W. Stiles Constr. Co., Rookery Bldg., Chicago, $46,256; Hiram Lloyd Bldg. & Constr. Co., Odd Fellows B ldg., St. Louis, Mo., $47,818. Noted May 3.

★Minn., Bemidji—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., let contract to J. Lauritzen Co., Fergus Falls, Minn., $39,990. Noted May 3.

Tex., Orange—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received only bid from A. Blair, Hill Bldg., Montgomery, Ala., limestone, $54,472. Noted May 3.

Okla., Altus—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received bids from W. D. Lovell, 1415 8th St., S.E., Minneapolis, $46,200; W. O'Neil & Sons Co., Faribault, Minn., $47,039; G. W. Stiles Constr. Co., Rookery Bldg., Chicago, $48,274, alternate bid, deduct $100. Noted May 24.

★Okla., Durant—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., let contract to W. D. Lovell, 1415 8th St., S.E., Minneapolis, Minn., $45,721. Noted May 3.

★Wash., Bremerton — Cranes — Bureau Yards and Docks, Navy Dept., Wash., let contract furnishing shipbuilding cranes at Puget Sound Navy Yard, to McMyler Interstate Co., Stop 27, A. B. C. Electric Ry., $230,727. Noted June 7.

Cal., Golden Gate—(Oakland P. O.)—U. S. Coast Guard, Custom House, San Francisco, received low bids, constructing Coast Guard Station No. 324 at Golden Gate, from Schoder Bros., $5800; C. Terranova & L. Elogarvi, $6595; G. Barnieri, $6814; all of San Francisco. Noted May 17.

MISCELLANEOUS

Proposed Work

Transmission Line—Moodus, Conn.—Pub. Utilities Comn. approved petition presented by Central Connecticut Power & Light Co., East Hampton, constructing line from Moodus to East Glastonbury, using double galvanized wire.

Playground—New York, N. Y.—C. Ward, park comr., Municipal Bldg., plans, on 1st Ave., between 67th and 68th Sts. About $36,000.

Park Improvements—Yonkers, N. Y.—D. F. Fullon, city engr., preparing plans improving Glen Park. About $25,000.

Dry Dock—Gloucester City, N. J.—New York Shipbuilding Co., 120 Bway., New York City, plans.

Retaining Walls—Erie, Pa.—City Engr. Dept. soon receives bids retaining walls for Parade St. Subway. About $13,000. F. G. Lynch, city engr.

Subway—Erie, Pa.—City Engr. Dept. soon receives bids grading for Division St. subway. About $12,050. F. G. Lynch, city engr.

Wood Pipe—Pinegrove, Pa.—(Official)—Boro. soon receives bids laying about 2.8 mi. 10-in. wood pipe. Pipe to be furnished by boro.; advertised in this issue.

Transmission Line—Laurinburg, N. C.—Palmetto Power & Light Co. having surveys made, line from Laurinburg to point on Wateree River, about 7 mi. from Camden, S. C. Energy will be obtained from Wateree Power Co. C. E. Johnson, pres.

Transmission Line—Pacolet, S. C.—Pacolet Mfg. Co. plans to equip Pacolet Mills and Gainesville (Ga.) Cotton Mills for electrical operation. Transmission lines will be constructed from Dunlap plant on Chattahoochee River, about 3 mi. distant. Motors ranging from 5- to 150-hp. will be installed, and energy will be supplied from Georgia Railway & Power Co., Atlanta, Ga. About $200,000.

Transmission Line—Tallulah Falls, Ga.—Georgia Railway & Power Co., plans, from Tallulah Falls to Royston, 35 mi., thence to Elberton, 18½ mi. G. W. Brine, Electric & Gas Bldg., Atlanta, vice pres. and genl. mgr.

Subway—Anderson, Ind.—Cleveland, Cincinnati, Chicago & St. Louis R.R., city and Madison Co., plan subway under tracks on Main St. About $37,000. C. A. Paquette, Cincinnati, ch. engr.

Retaining Wall — Elwood, Ind. — City Council considering placing retaining wall along either bank of Duckcreek, between South A and 1st alley north of Main St. A. D. Moffitt, city engr. About $22,167.

Elimination Grade Crossings—Indianapolis, Ind.—Lake Erie & Western R.R. will eliminate "Dead Man's Crossing" on Allisonville Pike, between Indianapolis and Noblesville. About $200,000. J. K. Connor, Indianapolis, ch. engr.

Park—Milwaukee, Wis.—City plans to issue $40,000 bonds for improving Kosciusko Park. G. Staal, city engr.

River Improvements—Des Moines, Ia.—Polk, Jasper, Warren and Marion Cos. will straighten Des Moines River, 20 mi. About $1,000,000. S. Dean, engr.

Transmission Line—Concordia, Kan.—Concordia Electric Light Co. plans extending, to Cuba, Aganda, Haddam and Washington.

Bathing Beach—Kansas City, Kan.—City made plans. About $15,000. W. Barclay, city engr.

Incinerating Plant—Kansas City, Mo.—City plans, foot of Bway, capacity 100,000 tons. About $100,000. C. Hill, city engr.

Garbage Plant—Columbia, Mo.—Cities of Columbia, Dupo and East Carondelet plan, on river bank to serve all 3 cities. M. Rapp, Columbia, interested.

Levees—Dallas, Tex.—Dallas Co. Levee Improv. Dist. No. 2, voted $1,180,000 bonds to improve levees.

Coliseum—Waco, Tex.—C. H. Cox, chn. bldg. com., Cotton Palace Assn., soon receives bids, 196-200 ft. rein.-con. brick and tile. About $50,000. M. W. Scott & Co., archts., 412½ Franklin St., prepared plans.

Park Improvements — Hobart, Okla. — City plans to issue $10,000 bonds to improve parks.

Transmission Line — Hollister, Idaho — Idaho Power & Light Co., Boise, plans to extend to this village to furnish electricity for lamps and motors. H. B. Watts, Empire Bldg., Boise, ch. engr.

Park Improvements, etc.—Salt Lake City, Utah—See "Sewers."

Transmission Line—Portland, Ore.—Co. comrs. granted franchise to Portland Railway & Light Co. to erect line on Columbia River highway, from automobile clubhouse to Crown Point, subject to approval of Dist. Attorney. H. L. Clark, Electric Bldg., Portland, vice pres.

Pipe—Edmonton, Alta.—City soon receives bids 12,000 ft. 6-in. pipe, Class "C." A. W. Haddow, act. city engr.

Bids Desired

Retaining Wall—Winsted, Conn.—Until June 18 by Selectmen, on Main St.

Duct Line—Brooklyn, N. Y.—Until June 18 by Pub. Ser. Comn. for 1st Dist., 120 Bway., New York City, for railroad duct line for part of Eastern Pkway. Rapid Transit R.R. (East 98th St. and Livonia Ave.), Route No. 31.

Lime—Long Island City, N. Y.—Until June 20 by M. E. Connolly, boro. pres., furnishing and delivering 100 net tons hydrated lime to Newtown disposal plant, 2nd Ward; 200 net tons to Jamaica (4th ward) and Far Rockaway (5th ward) disposal plants.

Boilers, Etc.—Newark, N. Y.—(Official)—Until June 22 by A. W. Beaven, pres. bd. managers, New York State Custodial Asylum for Feeble-Minded Women, for 2 new boilers, heating work, stokers, piping, etc.; advertised in this issue.

Carts—New York, N. Y.—Until June 20 by J. T. Fetherstone, comr. street cleaning, furnishing 75 hose reel carts.

Snow Plows—New York, N. Y.—Until June 20 by J. T. Fetherstone, comr. street cleaning, Municipal Bldg., furnishing and delivering 50 snow plows.

Ky., Pikeville—See "Reinforced Concrete."

River Improvements—Olive, Cal.—Until June 23 by Olive and West Olive Protection Dist., 1st Natl. Bank of Olive, furnishing any portion of following material: 1750 20-ft. cedar or O. P. piles; 750 50-in. Ellwood fence, or 58- or 52-in. American fence; 300 lb. steel wire galvanized chisel point 1¼-in. fence wire staples, and 16,320 lb. ⅜-in. galvanized steel wire, part delivered on railroad siding at Orange and balance on railroad siding at Olive.

River Improvement—Hullett, Ont.—See "Excavation and Dredging."

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★Transmission Line—West Danville, Vt.—Hortonia Power Co., Brandon, let contract line from West Danville to Barnet and Pike Hill copper mines and connecting proposed new plant at West Danville with those of company at Barnet, Groton and Ryegate, to P. Ricci, Rutland.

★Ferry Slip—Greenwich, Conn.—Interstate Ferry Co. let contract slip at Greenwich and Oyster Bay, L. I., to Steen Symas Co., 30 Church St., New York City, $25,000.

★Swimming Pool—Phila., Pa.—City let contract, 17th St., to R. P. Bennis, Chew and Price Sts., $45,000.

★Pier — Norfolk, Va. — See "Reinforced Concrete."

★Retaining Wall—Wheeling, W. Va.—Bd. Co. comrs. let contract retaining walls and culverts for Middle Wheeling Creek Rd. to C. B. Kimberley, Natl. Bank Bldg.

★Pipe—Centerville, Cal.—Graves Bros. let contract furnishing about 6 mi. 24-in. cement pipe to Concrete Pipe & Constr. Co., Porterville.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until June 26, 1917.

Barge Canal Work

STATE OF NEW YORK, OFFICE OF SUPERINTENDENT OF PUBLIC WORKS

Albany, N. Y., May 22nd, 1917.

Sealed proposals will be received by the undersigned at his office in the Capitol at Albany, N. Y., until twelve o'clock noon of Tuesday, June 26th, 1917, at which place and hour they will be publicly opened and read, for improving the New York State canals pursuant to the provisions of Chapter 147 of the Laws of 1903, and of the acts amendatory thereof and supplementary thereto, and Chapter 570 of the Laws of 1915, as follows:

CONTRACT NO. 146.

Erie Canal—Section 4.

For constructing a new movable dam to replace existing Dam No. 14 at Herkimer. Sheets 1 to 7, inclusive.

Plans may be seen and detailed specifications, engineer's estimate of quantities, proposal blanks, form of contract and bonds required and other information for proposers may be had at the office of the Superintendent of Public Works at Albany, N. Y., at the office of the Assistant Superintendent of Public Works for the Middle Division at Syracuse, N. Y., at the office of the Assistant Superintendent of Public Works for the Western Division at Rochester, N. Y., and at the canal office, Spaulding's Exchange, Buffalo, N. Y.

Copies of detailed plans or drawings may be obtained from the State Engineer and Surveyor at Albany, N. Y., upon payment to him of the cost of producing them.

Monthly estimates will be paid of ninety per centum (90 per cent.) of the work done at the contract price. Every proposal for said work must be accompanied by a money deposit in the form of a draft or certified check upon some good banking institution in th eCity of Albany or New York, issued by a national or State bank in good credit within the State and payable at sight to the Superintendent of Public Works for five per centum (5 per cent.) of the amount of the proposal.

The person whose proposal shall be accepted will be required to execute a contract and furnish bonds within ten days from the date of notice of award delivered to him or them in person or mailed to the address given in the proposal.

Upon execution of the contract and approval of bonds, the certified check or draft will be returned to the proposer unless the same shall have been presented for collection prior to such time, in which case the amount of the deposit will be refunded by the Superintendent of Public Works.

The deposits of bidders other than the one to whom the award of contract shall be made will be returned immediately after the award has been made.

The bond required for the faithful performance of the contract shall be in such sum as shall be fixed by the Superintendent of Public Works, which sum shall not be less than twenty per centum (20 per cent.) of the estimated cost of the work according to the contract price, and an additional bond, known as the labor bond, in the sum of ten per centum (10 per cent.) of the amount of the estimated cost of the work according to the contract price, will be required as security that the contractor will pay in full at least once in each month all laborers employed by him upon the work specified to be done in the contract.

In the event that more than one surety company is offered as surety on said bonds co-insurance only will be accepted.

Each proposal must be addressed to the Superintendent of Public Works, Albany, N. Y., and must be endorsed on the envelope with the name of the construction for which the proposal is made.

Award, if made, will be made to the person or persons whose proposal shall be lowest in cost to the State for doing the work and which shall comply with all provisions required to render it formal. Before any award shall be made the lowest bidder will be required to satisfy the Superintendent of Public Works of his ability to provide suitable equipment and materials for the proper performance of the work.

The right is reserved to reject all proposals and readvertise and award the contract in the regular manner if, in the judgment of the undersigned, the interests of the State will be enhanced thereby.

W. W. WOTHERSPOON,
Superintendent of Public Works.

Official Proposals

Price, $3.60 an inch—Copy can be received until Wednesday, 10 a. m. for issue mailed the next day

PROPOSALS

Bids received until June 20, 1917.

Lateral Sewers

Scarsdale, N. Y.

Sealed proposals for the construction of lateral sewers and appurtenances in the Village of Scarsdale, New York, will be received until 8 P.M. on Wednesday, June 20th, and will then be publicly opened and read by the Street Commissioner of the Village of Scarsdale, at his office in the Town Hall of Scarsdale, who will report thereon to the Board of Trustees.

Plans and specifications may be seen and blank forms of proposals obtained at the office of Waring, Chapman & Farquhar, civil engineers, 874 Broadway, New York City.

A charge of $3.00 will be made for plans and specifications furnished to applicants therefor.

Each proposal must be made on one of the blank forms provided, and must be accompanied by a certified check for $1000.00.

The amount of bond for faithful performance, to be furnished when the contract is executed, will be the amount of the contract price as computed from the accepted bid.

The proposed work consists of approximately 11,000 lineal feet of 8-inch pipe sewer, with manholes, flush-tanks, etc., and is to be completed by December 1st, 1917.

The Board of Trustees reserves the right to reject any or all bids.

Scarsdale, N. Y., May 29th, 1917.

By order of the Board of Trustees,
JOHN R. ROSS, Village Clerk.

PROPOSALS

Bids received until June 26, 1917.

Bituminous Macadam Road

Belvidere, N. J.

Sealed bids or proposals will be received by the Board of Chosen Freeholders of the County of Warren, in the State of New Jersey, for the completion of 4.107 miles of Bituminous Macadam Road, known as the Washington-Buttzville Road, Section No. 1, according to the terms of the contract made with Raphael A. Capone on April 14, 1916, at their office at the Court House in Belvidere, New Jersey, on

WEDNESDAY, JUNE 20, 1917,
at 10.30 A. M.

Each bidder must accompany his bid with a certified check, payable to the County Collector of the County of Warren, for One Thousand Dollars, as a guarantee, according to law.

Said contract, with its attached plans and specifications, together with an estimate of the work already performed and material now upon the line of work, are on file for examination at the office of Harry W. Vetter, County Engineer of Warren County, in the Court House, Belvidere, New Jersey, where blank proposals may also be obtained.

The right is reserved to reject any or all bids.

By order of the Board of Chosen Freeholders of the County of Warren.

MORRIS S. FAUST, Clerk.

Bids received until June 21, 1917.

Paving

Lebanon, Pa.

Sealed proposals directed to Dan. M. Sharp, City Clerk, will be received by the Mayor and Council of the City of Lebanon, Pa., at the City Hall until 5 P. M., Thursday, June 21, 1917, for the furnishing of all labor and materials required to construct pavements as follows:

Seventh Street, approximately, 1100 square yards

Sixth Street, approximately, 2800 square yards

New Street, approximately, 1600 square yards

Fifth Street, south of Willow, approximately, 2600 square yards

Fifth Street, north of Willow, approximately, 3100 square yards

Alternate bids will be received on a 6-in. concrete pavement and on wood block, vitrified brick, bitulithic and topeka each on 5-in. concrete base.

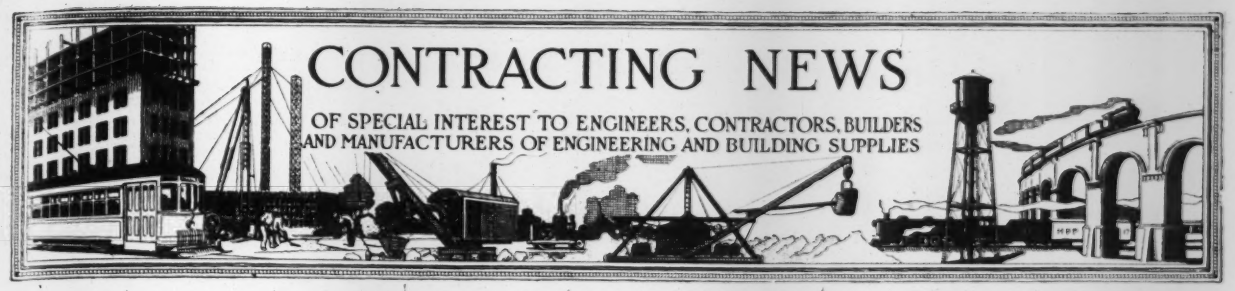
Specifications, proposal blanks and information concerning the manner of submitting bids can be obtained from the City Engineer upon a deposit of Five Dollars ($5), which will be refunded upon the return of specifications in good condition.

Plans of streets and standard structures may be seen at the City Engineer's Office.

Certified checks of the different amounts called for on the several proposals must accompany each bid.

The Mayor and Council distinctly reserve the right to reject any or all bids and to award the contract as is deemed to the best interest of the City of Lebanon.

PAUL A. VOLCKER, City Engineer.



Proposals

For Proposals Advertised See Pages 50 to 56 Inclusive

WATER-WORKS

Bids Close		See Eng. News-Record
June 23.	Wickenburg, Ariz.	June 7
June 26.	Livingston, Mont. Adv. June 7 and 14.	June 14
June 27.	Pointe Claire, Que.	June 21
July 1.	Leeds, N. D.	June 7
July 1.	Fessenden, N. D.	June 7
July 1.	Strathroy, Ont.	June 21
July 2.	Hazen, N. D.	June 14
July 2.	Farmington, Ill.	June 21
July 2.	Towner, N. S.	June 21
July 2.	Augusta, Kan.	June 21
July 2.	East Liverpool, O. Adv. June 21.	June 21
July 3.	Chardon, O.	June 14
July 6.	Winchester, Ky.	June 21
July 10.	Duluth, Minn.	June 14
July 10.	New York, N. Y. Adv. June 14.	June 21
July 17.	New York, N. Y. Adv. June 7 to 21.	June 14

SEWERS

June 25.	Gary, Ind.	June 14
June 25.	St. Paul, Minn.	June 21
June 25.	Syracuse, N. Y.	June 21
June 25.	Anamoose, N. S.	June 21
June 26.	Carl Junction, Mo.	June 21
June 26.	Warsaw, Ill. Adv. June 21.	June 21
June 27.	West Frankfort, Ill.	June 21
June 27.	New York, N. Y.	June 21
June 28.	Cleveland, O.	June 21
June 28.	Casper, Wyo.	June 14
June 28.	Chicago, Ill. Adv. May 24.	May 24
June 30.	Jacksontown, O.	June 21
July 3.	Davenport, Ia.	June 14
July 3.	Ankeney, Ia. Adv. June 21.	June 21
July 6.	Cleveland, O. Adv. June 21.	June 21
July 7.	Pine City, Minn.	June 21
July 12.	Bridgeport, Conn. Adv. June 14 and 21.	June 14

STRUCTURAL STEEL WORK

June 25.	Wapato, Wash.	June 21
June 25.	Warren, O.	June 21
June 25.	Detroit, Minn.	June 21
June 26.	Mandan, N. D.	June 14
June 26.	Duval, Wash.	June 14
June 26.	Seattle, Wash.	June 21
June 27.	Brownsville, Tenn.	June 14
June 28.	Kinder, La.	June 14
June 29.	Morrillton, Ark. Adv. June 7	June 7
June 29.	Crookston, Minn.	June 21
June 30.	Tacoma, Wash. Adv. June 7 and 14.	June 21
July 1.	Akron, O.	June 21
July 2.	Fairview, Okla.	June 21
July 2.	Greenville, Miss.	June 21
July 2.	Visalia, Cal.	June 21
July 2.	Warren, Minn.	June 21
July 6.	Corydon, Ind.	June 21
July 15.	Orange, Tex. Adv. June 7 to 21.	June 7
July 17.	West Palm Beach, Fla. Adv. June 21.	June 21

REINFORCED CONCRETE

June 23.	Schoharie, N. Y. Adv. June 7 to 21.	June 7
June 23.	Paris, Ill.	June 21
June 25.	Olympia, Wash.	June 14
June 25.	Clifton, Ariz.	June 7
June 25.	Pefferlan, Ont.	June 21
June 26.	Belva, W. Va.	June 14
June 26.	Monroe, Mich.	June 7
June 29.	Clarksburg, W. Va.	June 14
June 30.	Tacoma, Wash.	June 21
July 2.	Hamlin, W. Va.	June 14
July 2.	Warren, Minn.	June 21
July 10.	Montezuma, Ga.	June 21

STREETS AND ROADS

June 23.	St. Louis, Mo.	June 14
June 25.	Upland, Cal.	June 14
June 25.	Austin, Tex.	June 21
June 26.	Cleveland, O.	June 14
June 26.	Crowley, La.	June 14
June 26.	Rahway, N. J. Adv. June 7 and 14.	June 14
June 26.	Fayetteville, Tenn.	June 21
June 26.	Knoxville, Tenn. Adv. June 21.	June 21
June 26.	North Adams, Mass. Adv. June 21.	June 21
June 27.	Ohio	June 21
June 27.	Hackensack, N. J.	June 21
June 27.	Long Island City, N. Y.	June 21
June 28.	Indiana	June 14
June 28.	Oberlin, La.	June 14
June 28.	Red Cloud, Neb.	June 21
June 28.	Warrenton, Ore.	June 21
June 28.	Danville, Ky.	June 21
June 28.	Poughkeepsie, N. Y. Adv. June 14.	June 21
June 29.	Gretna, La.	June 21
June 29.	Elgin, Ore.	June 21
June 29.	Rutherford, N. J.	June 21
June 30.	Adamston, W. Va.	June 14
July 1.	Pine City, Minn.	May 31
July 2.	Hamlin, W. Va.	June 7
July 2.	Frederick, Md.	June 14
July 2.	Indiana	June 14
July 3.	Indiana	June 14
July 2.	Martinez, Cal.	June 21
July 2.	Waterville, Wash.	June 21
July 2.	Shelton, Wash.	June 21
July 2.	San Jose, Cal.	June 21
July 2.	Buhl, Minn.	June 21
July 3.	Lafayette, Ind. Adv. June 21.	June 21
July 3.	Rutherford, N. J.	June 21
July 6.	Vancouver, Wash.	June 21
July 9.	Winfield, W. Va. Adv. June 14.	June 21
July 9.	Albany, N. Y. Adv. June 21.	June 21
July 10.	Putnam, Va. Adv. June 21.	June 21
July 10.	Erwin, Tenn.	June 21
July 10.	Aberdeen, Miss.	June 21
July 14.	Indiana	June 14
Aug. 13.	Lewiston, Idaho	May 24

EXCAVATION AND DREDGING

June 25.	Wilmington, N. C.	June 21
June 26.	Albany, N. Y. Adv. May 31 to June 21.	May 31
June 26.	Benson, Minn.	June 14
June 28.	Hullett, Ont.	June 14
June 28.	Salinas City, Cal.	June 21
June 28.	Sturgis, Mich. Adv. June 21.	June 21
June 29.	Redwood Falls, Minn.	June 21
June 30.	Austin, Minn.	June 14
June 30.	Arcadia, Fla.	June 14
June 30.	Tuscola, Ill.	June 21
June 30.	Newton, Ia.	June 21
July 2.	Trenton, N. J.	June 21
July 2.	Grundy Center, Ia.	June 21
July 6.	Savannah, Ill.	June 21
July 18.	Glenwood, Ia. Adv. June 21.	June 21
July 20.	St. Cloud, Minn.	June 21

INDUSTRIAL WORKS

June 29.	Dunkirk, N. Y. Adv. June 21.	June 21

BUILDINGS

June 23.	Ironton, Minn.	June 14
June 23.	St. Augustine, Fla.	June 14
June 23.	Overpeck, O.	June 14
June 25.	Ft. Madison, Ia.	June 7
June 25.	Portsmouth, O.	June 14
June 25.	Augusta, Kan.	June 14
June 25.	De Graff, O.	June 14
June 25.	Syracuse, N. Y.	June 14
June 25.	Nevada, Ia.	June 14
June 25.	Terre Haute, Ind.	June 21
June 25.	Ft. Scott, Kan.	June 21
June 25.	Lincoln, Neb.	June 21
June 26.	North Tarrytown, N. Y.	June 21
June 26.	Sterling, Neb.	June 21
June 26.	Woonsocket, R. I.	June 21
June 26.	Mt. Vernon, O.	June 21
June 26.	Albany, N. Y.	June 7
June 26.	Mt. Vernon, O.	June 14
June 26.	Larned, Kan.	June 14
June 27.	New York, N. Y.	June 21
June 29.	Traer, Ia.	June 14
June 29.	Decatur, Ind.	June 21
June 29.	Youngstown, O.	June 21
July 1.	Magnolia, Ark.	June 14
July 1.	Riverton, Minn.	June 7
July 2.	Portsmouth, O.	June 21
July 9.	Cleveland, O.	June 14
July 10.	Huron, S. D.	June 21
July 10.	Philadelphia, Pa. Adv. June 21.	June 21

FEDERAL GOVERNMENT WORK

June 23.	Raton, N. M.	May 17
June 23.	New York, N. Y. Adv. May 24 to June 14.	May 31
June 25.	Washington, D. C.	May 31
June 25.	New Orleans, La. Adv. May 31 to June 21.	May 31
June 25.	Bremerton, Wash.	June 7
June 25.	Washington, D. C.	June 14
June 25.	Annapolis, Md.	June 14
June 25.	Vallejo, Cal. Adv. June 14.	June 14
June 25.	San Francisco, Cal.	June 21
June 25.	Philadelphia, Pa.	June 21
June 26.	Monesson, Pa.	May 31
June 26.	Gallatin, Tenn. Adv. June 21.	June 21
June 27.	Vineland, N. J.	June 7
June 28.	New Orleans, La. Adv. May 31 to June 21.	May 31
June 28.	Detroit, Mich. Adv. May 31.	May 31
June 28.	Prescott, Ark. Adv. June 7 to 21.	June 7
June 28.	Ft. Caswell, N. C.	June 21
June 30.	Detroit, Mich. Adv. June 7 and 14.	June 14
June 30.	Memphis, Tenn. Adv. June 21.	June 21
July 2.	St. Louis, Mo.	June 21
July 2.	Memphis, Tenn. Adv. June 21.	June 21
July 5.	Wilmington, Del. Adv. June 14 and 21.	June 14
July 5.	Topeka, Kan.	June 21
July 5.	Wilmington, Del.	June 21
July 5.	New York, N. Y. Adv. June 21.	June 21
July 10.	Buffalo, N. Y. Adv. June 14 and 21.	June 14
July 10.	Buffalo, N. Y.	June 21
July 11	Vicksburg, Miss. Adv. June 21.	June 21
July 12.	Hoopeston, Ill.	June 7
July 16.	Newburyport, Mass.	June 14
July 18.	St. Ignatius, Mont. Adv. June 21.	June 21
July 20.	Ft. Fairfield, Me.	June 21

MISCELLANEOUS

June 25.	Harbor Improvements — Newport, Ore.	June 7
June 25.	Incinerator Plant — New York, N. Y.	June 21
June 26.	Cast Iron Lamp Stands — Bayonne, N. J.	June 21
June 27.	Unloading Device — Cleveland, O.	June 21

Bids Close		See Eng. News-Record
July 2.	Retaining Wall — Clifton, Ariz.	June 21
	Adv. June 21.	
July 12.	Refrigerating Equipment— Thielis, N. Y.	June 21
	Adv. June 21.	
July 13.	Freight Conveyors— Albany, N. Y.	June 21
	Adv. June 21.	

Where name of official is not given, inquiries should be addressed to City Clerk., County Clerk or corresponding official.

WATER-WORKS

Proposed Work

N. Y., Yonkers—City preparing plans installing 6-in. water main in Argyle Terrace. E. Peene, supt.

Pa., Coatesville—City sold $36,000 bonds to improve water system. Address W. E. Greenwood.

Pa., Elwood City—State Dept. Health approved plans of Ellwood Water Co. for extensions to distributing system, concrete lined distributing reservoir and duplicate high service pump, requiring plans for enlargement of filter plant. Noted Apr. 5.

Pa., Etna—State Dept. Health approved plans chemical germicide apparatus to be installed as temporary measure and requiring plans for permanent improvements of water-works. H. A. Stoll, supt.

Pa., Homestead—City election July 24 to vote on $166,000 bonds to improve water system and install filtration plant. J. Bender, supt.

Pa., Mountville—See "Reinforced Concrete."

Pa., Tarentum—City approved plans auxiliary sedimentation basin for water filtration plant. J. C. Turner, supt.

Md., Baltimore—City plans to lay 70,000-ft. 4-in., 90,000-ft. 6-in., 9000-ft., 10-in., 2400-ft., 12-in., 3400-ft., 20-in., 4500-ft., 30-in., 1500-ft., 36-in., c.i. pipe, also install 5000 service connections, 250 fire hydrants and 50 meters. W. E. Lee, engr.

N. C., La Grange—City soon receives bids installing waterworks. Address the Mayor.

Tenn., Lebanon—City plans election to vote on $50,000 bonds to improve waterworks.

O., Akron—City voted $1,000,000 bonds to extend and improve water system. H. H. Frost, supt. Noted May 10.

O., Ashland—Council will issue $11,000 bonds to install water mains from Eastern Ave. to Waterworks station R.R. Conn., city engr.

Ill., Chicago—By-Products Coke Co., 108th St. and Calumet Ave., plans to build 1-story pumping station at plant. About $23,000.

Ill., Rock Island—City plans to install water mains in 3rd, 4th, 5th and 6th Sts. and Lincoln Park Blvd. R. W. Sharp, city engr.

Wis., West Allis—See "Sewers."

Minn., Manganese—Village sold $10,000 bonds for water system. G. Phelps, clk.

Neb., Indianola—City voted $22,800 bonds for water-works.

N. D., Cooperstown—City plans to install 50,000-gal. tank and 100-ft. tower.

N. D., LaMoure—City to sell $10,000 bonds July 2 for water system. B. W. Loppnow, clk. Noted May 3.

N. D., Langdon—City having plans prepared for water-works and sewerage system. About $50,000. J. Sheehan, city clk.

N. D., Minot—See "Buildings."

Wyo., Laramie—City plans to install 4700-ft. 6-in., 2100 ft. 4-in. and 700-ft. 10-in. c.i. pipe, 25 service connections, 20 hydrants and 60 gate valves. Z. E. Sevison, supt.

Mo., Jefferson City—Capital City Water Co. plans to install filter plant and additional mains. About $75,000 to $100,000. L. B. Landimann, supt.

Mo., Joplin—See "Sewers."

Tex., Abilene—City plans election to vote on bonds to build large mountain reservoir.

Okla., Bristow—City plans to improve water system.

Okla., Tulsa—City election June 28 to vote on $80,000 bonds to extend sewers. E. C. Hughes, city engr.

Wash., Bremerton—Water Dept. plans to purchase pump, etc., for water-works. About $500,000.

Wash., Seattle—Bd. Pub. Wks. soon receives bids building wooden water tanks and supporting towers at Maple Leaf Reservoir. About $15,000. L. B. Youngs, supt. Noted May 24.

Cal., Oakland—See "Miscellaneous."

Cal., Pasadena—S. B. Morris, ch. engr. water dept., estimates cost installing concrete-lined reservoir in Linda Vista Hills, at $8000; supply mains, $3350 and distributing mains $12,170.

Ont., Leamington—Council plans to install 2 centrifugal pumps, 750,000-gal. capacity; also reservoir, 1,000,000-gal. capacity at waterworks. E. V. Buchanan, City Hall, London, engr.

Ont., Steelton—Town Council plans sinking 2 pipes of 14- or 16-in. diam. to wells for their water supply. J. Robinson, town clk.

Ont., Tillbury—Council plans to install pumping plant. J. J. Newman, engr.

BIDS DESIRED

N. Y., New York—(Official)—Until July 10 by Bd. Water Supply, 22nd floor, Municipal Bldg., Park Row, Centre and Chambers Sts., for contract 184, paving Kensico aerator; advertised in this issue.

N. Y., New York—(Official)—Until July 10 by Bd. Water Supply, 22nd floor, Municipal Bldg., for Contract 187, fitting up chemical and bacteriological laboratory, etc. lower gate chamber Ashokan reservoir; advertised in this issue.

Ky., Winchester—(Official) — Until July 6 by city installing water system; plans include 4 sand filters, 500,000-gal. daily capacity, sedimentation basin, intake, filter and power house, 8-mi. force mains, 12-in. pipe, standpipe, 270,000 or 500,000-gal. capacity, distribution system, 6-in. mains, valves, hydrants, etc. About $180,000. E. B. Kay, ch. engr.

O., East Liverpool — (Official) — Until July 2 by T. Doherty, dir. pub. ser., for furnishing and installing steam, exhaust, feed water and miscellaneous small piping, pie covering for same, damper regulator and ash conveyor and other appurtenances on connection with equipment for new waterworks pumping station; advertised in this issue.

Ill., Farmington—(Official) — Until July 2 by city extending and improving water system; plans involve drilling deep well, building pumping station, elevated steel tower, etc. G. F. Hubbard, clk. Noted May 10.

Kan., Augusta—Until July 2 by city for improving waterworks; plans include filter equipment, centrifugal pumps, filter house addition and pump pit, also laying 3600 ft. c.i. pipe. C. W. Hawes, clk.

N. D., Anamoose—See "Sewers."

N. D., Towner—Until July 2 by City building underground reservoir. A. M. Berget, aud.

Que., Pointe Claire—Until June 27 by J. B. Martin, secy.-treas. for water filtration plant and low lift pumps. R. S. & W. S. Lea, 809 New Birks Bldg., Montreal, engrs.

Ont., Strathroy—Until July 1 by city improving waterworks. About $20,000. Kerry & Chace, Confederation Life Bldg., Toronto, engrs.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★Mass., Ft. Andrews—See "Reinforced Concrete."

★Mass., Shrewsbury—(Official)—City let contract laying water pipes, Quinsigamond Ave. to D. D. Pietro, Boston, $11,521.

★R. I., Newport—City let contract reservoir, 6-in. supply pipe and 10-in. discharge pipe to Simpson Bros. Corp., 166 Devonshire St., Boston, $32,589.

★N. Y., Auburn—(Official)—Bd. Water Comrs. let contract sand filtration plant to J. E. Bunting Co., Flushing, $154,632. Noted May 10.

★Pa., Burgettstown—City let contract filtration plant to Pihl & Miller, Wabash Bldg., Pittsburgh, $100,000.

★Ga., Augusta—City let contract installing about 7000 water meters to Pittsburgh Meter Co., East Pittsburgh, and Natl. Meter Co.

★Ga., Macon—City let contract installing high service pump to Owens Hoover-Ranchler Co., of Hamilton-Carliss Engine Wks., Hamilton, O., $32,500. Noted May 17.

★Ala., Camden—City let contract [illegible] ing waterwork to O. B. Bradford, S[illegible]

★Ind., Kendallville—City let contract [illegible] ervoir to Newhart & Newhart, Terra [illegible] $14,910; pumps, pipes and fittings to Indiana Engr. & Constr. Co., 702 Shaaf [illegible] Ft. Wayne, $6264. Noted May 31.

★Ill., Joliet—See "Sewers."

★Wis., Barron—City let contract [illegible] ing 14- or 16-in. deep well to Mo[illegible] Well Co., 670 Eustis St., St. Paul. Noted May 24.

★Ia., Bancroft—City let contract [illegible] works to Des Moines Bridge & Iron Wks., 9th and Tuttle St., Des Moines, $15[illegible]

★Ia., Coin—City let contract laying [illegible] 852-ft. water mains to J. J. Dunnegan and E. H. Mitchell, Chenandoah.

★Ia., Riceville—City let contract drilling and casing well to J. Kuchar, Plymouth, $5.75 per ft. Noted June 14.

★Ia., Rockwell City—Bd. Control of State Reformatory let contract installing tower and tank to Des Moines Bridge & Iron Works, 9th and Tuttle Sts., Des Moines, $12,220.

★Kan., Tonganoxie—City let contract laying water pipe to Inter-Mountain Bridge & Constr. Co., Tecumseh, Neb., $10,000.

★Neb., Humphrey—See "Reinforced Concrete."

★Wyo., Laramie—City let contract laying 10,000-ft. water mains to J. S. Schwartz Colorado Springs, Colo.

★Idaho, Pocatello—City let contract installing water plant and distribution system to R. M. Bardsen.

★Ont., Oshawa—Water Comrs. let contract installing filtration system to Vermeiy Engr. Co., Toronto. About $40,000. Noted May 31.

SEWERS

Proposed Work

N. Y., New York—Dept. Sewers prepared plans installing sewer and screening plant 91st St. and North River. C. E. Gregory ch. engr.

N. J., Camden—City plans to install Sewers or drains in portions Freemont, Alberta, Carman, 32nd, Louis and 34th Sts. L. E. Farnham, city engr.

N. J., Garwood—Boro. Council plans to install joint trunk line sewer. About $80,000. E. R. Collins, city engr.

N. J., Palmyra—Town having plans prepared by Remington & Vosbury, engrs., 6th and Market Sts., Camden, for sewerage system and disposal plant.

Pa., Media—State Dept. Health approved plans for sanitary sewerage system, sewage to discharge into Marcus Hook sewerage system and Lower Chichester Twp.

Pa., Nazareth—State Dept. Health approved plans extension to sanitary sewer, including outfall sewer and sewage-treatment works.

Pa., Quincy—United Brethren Orphanage had plans prepared by Harrison, Mertz & Emlin, Inc., engrs., Commercial Trust Bldg., Phila., for sewage disposal plant and system. H. J. Kitzmiller, supt.

Pa., Sunbury—State Dept. Health approved plans sewerage and sewage treatment at Odd Fellows Orphan Home of Central Pennsylvania, Upper Augusta Twp.

Pa., Washington—State Dept. Health approved plans sanitary sewerage system and sewage pumping station, sewage to be delivered to Washington Boro. sewage treatment works at Washington Co. Home.

Pa., Williamsport—State Dept. Health approved plans for collection and treatment of all municipal sewage, requiring plans for outfall sewer, pumping station and partial treatment works; also sanitary sewerage system. J. B. Otto, city engr.

La., Shreveport—City soon lets contract installing storm sewer in Merrick St. E. M. Turner, city engr.

O., Cleveland—City plans to install sewers in East 18th and 158th Sts. R. Hoffman, city engr.

O., Cleveland Heights — (Warrensville P. O.)—Council approved plans installing sewers, Taylor Caledonia Sewer Dist. No. 5. F. C. Cain, pres.

O., Newark—Council plans to install sewers portion Florence St. E. H. Wells, city engr.

O., Wilmington—City plans to install sewers portions of Dists. 1, 2 and 3. R. H. Rannels, clk.

Mich., Bay City—City preparing plans installing 10- to 24-in. crock tile sewers. About $15,000. H. C. Thompson, city engr.

Sewers (Continued)

Ill., Elgin—City soon receives bids installing sewerage system in River St. About $50,000. M. H. Brightman, city engr.

Wis., West Allis—City plans to sell $15,000 storm sewer bonds, $25,000 sewer and $10,000 water bonds for improving sewerage and water systems. A. G. Orbert, city engr. Noted Apr. 19.

N. D., Wyndmere—Council plans to install sewerage system.

Mo., Cape Girardeau—(Official)—City receives bids in October, installing sanitary and storm sewerage system. About $300,000. C. E. Stiver, city engr. Noted June 7.

Mo., Joplin—City election June 21 to vote on $25,000 bonds for sewerage system and $5000 to extend water mains. J. J. McAfee, city engr.

Mo., Maplewood—(St. Louis P. O.)—City plans to install sewers in Greenwood sewer Dist. No. 2.

Okla., Ada—City voted $25,000 bonds to install sewers. Benham Engr. Co., Colcord Bldg., Oklahoma, engrs. Noted May 17.

Okla., Tulsa—City election June 28 to vote on $675,000 bonds to extend and improve water system.

Idaho, Emmett—City plans election to vote on $17,000 bonds to install sewerage system. D. M. Stokesbery, clk.

Ariz., Glendale—City plans election to vote on $30,000 bonds to install sewerage system.

Ore., Portland—(Official)—City receiving bids about July 5, installing sewer system, 50th St., S.E. and 31st Ave., plans include 1740 lin.ft. 30-in. monolithic concrete sewer, 14,050 cu.yd. excavation, 12,000 lin.ft. pipe sewer 6- to 24-in. diam. About $23,289. P. H. Dater, city engr.

Cal., Los Angeles—City defeated $1,750,000 bonds to install outfall sewers, etc. H. Hamlin, city engr. Noted May 31.

Cal., Los Angeles—City plans to install sewers portion Hoover and 9th Sts. H. Hamlin, city engr.

Cal., Sacramento—Advisory Bd. approved plans of Architectural Division of State Dept. of Engrs. for installing sewage disposal plant at Folsom Prison. About $11,000.

Cal., San Diego—City plans to install sanitary sewerage system portion Ocean Beach, Ocean Bay Beach, Ocean Beach Park Annex, Ocean Beach Extension No. 2, Ocean View Loma Alto No. 1, Point Loma Heights and subdivision of west half of northwest quarter of Pueblo. G. Cromwell, city engr.

Ont., Brantford—Bd. Pub. Wks. plans to install storm sewer in Oxford St., cost, $13,000; West Mill St., $6000; additional storm sewers, $7000, sanitary sewer, $5000. T. H. Jones, city engr.

Ont., Port Arthur—City will install sewers in Russell addition on portions Tupper, Duke, Hill and Dawson Sts. L. M. Jones, city engr.

Ont., Sarnia—Provincial Bd. Health approved plans for sewers in southern section of city. About $21,000. J. A. Baird, city engr.

BIDS DESIRED

N. Y., New York—Until June 27 by M. M. Marks, boro. pres., Room 2032, Municipal Bldg., for alteration to receiving basins with inlets on portion Broome St.

N. Y., Syracuse—Until June 25 by R. D. Roney, secy. bd. contract and supply, furnishing material and constructing west branch of 17th Ward sewerage system, involving 41,335 lin.ft. 36-in. to 6-in. vitr. clay or concrete sewer laid, 67 manholes, 1 sedimentation basin and 31 small catch basins.

Tenn., Erwin—See "Streets and Roads."

O., Cleveland—Until June 28 by city installing sewers portions Pratt Ave. extension, East 119th St. and Euclid Ave. R. Hoffman, city engr. Noted May 31.

O., Cleveland—(Official)—Until July 6 by Comr. Purchases and Supplies, for concrete outfall channel, etc.; advertised in this issue.

Ill., Warsaw—(Official)—Until June 26 by Bd. Local Improv., installing sanitary sewers, etc.; advertised in this issue.

Ill., West Frankfort—(Official)—Until June 27 by Bd. Local Improv. building sewerage system. About $93,256. R. B. Wilson, Marion, engr.

Ia., Ankeny—(Official)—Until July 3 sewer and sewage disposal plant; advertised in this issue.

Minn., Pine City—Until July 7 by Village Clk. for extension to sewerage system, involving about 1400 ft. 15-in. vitr. sewer pipe, 5 manholes, 4 catch basins, outfall to river, "Ys," and accessories.

Minn., St. Paul—(Official)—Until June 25 at office of H. W. Austin, purch. agt., for installing sewers portions Charlton, Wyoming and Winona Sts. Noted Apr. 12.

N. D., Anamoose—Until June 25 by Bd. Village Trustees installing sewerage and water systems. F. J. Funke, clk. Noted May 24.

Mo., Carl Junction—Until June 26 by city installing 10,000 ft. 8-in. lateral sewer. Former bids rejected. A. C. Moore, 417 Frisco Bldg., Joplin, engr.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★Mass., Milton—Town Sewer Comrs. let contract laying 2536-ft. pipe sewer to D'Addario & Booth, 49 Edgewater Dr., Mattapan, $11,586. Noted June 14.

N. Y., New York—(Official)—M. M. Marks, boro. pres. received low bids for Contract No. 2, tunnel relief sewer and appurtenances in portion West 46th St., from Melrose Constr. Co., 147 East 125th St., $83,630; J. O'Leary, $83,907; P. J. Kearns Contr. Co., 2306 Creston Ave., Bronx Boro., $88,676. Noted May 31.

★N. Y., Olean—See "Streets and Roads."

★N. Y., Rochester—Bd. Contract and Supply let contract furnishing hydraulic power equipment for sewage disposal plant to O'Connell Electric Co., $25,000. Noted June 14.

N. J., Newark—Passaic Valley Sewerage Comm., received low bid for Kearny-Harrison branch intercepting sewer in Kingsland, Hamilton and Schuyler Aves., from Harrison & Craig, Essex Bldg., $104,000. Noted May 17.

★N. C., Asheville—City plans to install sewers in Short, Robert and View Sts. by day labor. B. M. Lee, city engr.

★Fla., Miami—City let contract installing storm sewers Ave. E to F. G. Proudfoot, $60,968; Riverside Heights to Duval & Ashworth, $34,000; Southside to J. J. Quinn, $12,000.

★O., Youngstown—(Official) — City let contract installing sewers portion Hillman and other streets to Jobin & Miller, 135 West Glenaven Ave., $24,125, and Miller Bros., 46 Dewey Ave., $19,188.

★Ind., Gary—Bd. Pub. Wks. let contract installing Armour sewer to Heiny & Holben.

Ind., Mishawaka—Bd. Pub. Wks. received low bid installing sewers in Gernhart Ave. and State St. from Staples & Ackerman, South Bend.

★Ind., South Bend—City let contract installing trunk sewer in Portage Ave. addition to Hoban & Roach, who transferred same to Natl. Constr. Co., 626 J. M. S. Bldg.; about $60,000. Noted May 10.

Ill., Joliet—City received low bids installing sewerage and water systems from Curtis & Tendall Co., $54,455; Joliet Embankment Co., $56,864.

★Ill., West Chicago—City let contract sewerage system, septic tank and filter beds to J. M. Egan, Jr., 105 South Mack St., Aurora, $150,000.

★Wis., Burlington—City let contracts storm sewers to C. E. Reed and sanitary sewers to Brogan & Burns, Green Bay.

★Wis., Fond Du Lac—(Official)—City let contract installing sewers 10 streets to A. Krueger and R. Bernett, Fond Du Lac.

Wis., Kimberly—City received low bids laying 1 mi. storm sewers from Farnham & Yahr, and H. Olk. About $21,000 for 1 kind of pipe and $23,000 for more expensive pipe.

★Wis., Oshkosh—City let contract installing 4 sewers to J. Rasmussen & Sons Co.

★Wis., West Allis—City let contract extending portion Mitchell St. storm sewer to Kroening Constr. Co., Milwaukee, $14,500.

★Ia., Sioux City—(Official)—City let contract installing storm sewers portion Pearl St., to W. B. Carter, $2.48 for 18-in. concrete pipe; Nebraska St. to J. F. Devlin, $2.78 for 24-in. concrete pipe. Noted May 31.

★Neb., Hebron—City let contract installing sewers in 3 new sewer districts to M. Vlasnick, Lincoln.

★Neb., Omaha—(Official)—City let contract installing Saddle Creek storm sewer from Marcy to Harney St. to J. J. Hanigan Co., 617 South 14th St., $76,056; storm sewers portion Railroad Ave. to J. S. Harrington, $7460.

★Mo., Kansas City—(Official)—City let contract installing sewers Dist. No. 409 to W. C. Mullins, 1230 Montgall Ave., $29,327; Dist. No. 425 to W. S. Axtell, 5517 Norton Ave., $23,794.

★Tex., Bryan—(Official)—City let contract installing sewerage disposal plant and main sewer to Bryan Constr. Co., Bryan, $12,119.

★Okla., Oklahoma—City let contract installing sewers to Moreno Constr. Co., Syndicate Trust Bldg., St. Louis, $182,344. Noted May 24.

★Okla., Wilburton—(Official)—City let contract installing system of sanitary sewers and disposal plant to McEachin & McEachin, McAlester, $25,000. Noted May 3.

★Colo., Denver—(Official)—City let contract installing sewers, North Denver Dist. No. 3, to J. R. Gordon, 334 Century Bldg., $17,915.

Colo., Pueblo—(Official)—City received low bids installing sewers, Mesa Paving Dist. No. 1, from Axton & Sprathen, 24th and Erd Ave., $317,573; Strange-McGuire Paving Co., Utah Savings & Trust Co., Salt Lake City, Utah., $318,413.

★Wash., Seattle—Bd. Pub. Wks., let contract installing sewers East 45th St., et al. to James Constr. Co., Seattle, $42,946.

★Cal., Los Angeles—City let contract vitr. sewers in Larchmont Blvd Sewer Dist. to J. Sulalo, 476 Bell St., $14,393. Noted June 14.

Cal., Los Angeles—City received low bids installing sewers portion Victoria Park Dr. from W. A. Frick and J. Ukropins, $14,000; S. Zarubica, $16,000; M. Chutuk, $16,500.

STRUCTURAL STEEL WORK

Proposed Work

N. Y., Long Beach—State Dept. Highways prepared plans building bridge on Long Beach Rd., Barnum Island. About $60,000. F. Stark, Glen Cove, supt.

N. J., New Brunswick—A. Fox co. engr., preparing plans steel electric lift draw bridge over Delaware and Raritan Canal. Bids will soon be received. About $50,000.

Ga., Americus—See "Streets and Roads."

Ga., St. Marys—County voted $20,000 bonds to build bridge over Satilla River.

O., Columbus—City soon lets contract building new bridge over Scioto River on Rich St. About $80,000. H. Maetzel, city engr.

Ind., Elkhart—County and Indiana & Michigan Electric Co. plans to build steel bridge over St. Joseph River on Elkhart Ave. County to appropriate $63,800 toward cost, Indiana Electric Co., $18,400. A. Kinney, co. engr.

Ind., Goshen—County soon receives bids building steel girder bridge, concrete piers and abutments. About $80,000. C. Kinney, co. engr.

Ind., Logansport—H. M. Bell, co. surv., submitted plans to co. comrs. estimating cost building 372-ft. bridge over Eel River on 3rd St., at $110,000.

Ill., Quincy—L. L. Boyer, co. supt. highways, preparing plans repairing 200 bridges and culverts.

Wis., La Crosse—County soon receives bids building 2 30-ft. deck girder spans, 20-ft. roadway, involving 90 cu.yd. concrete and 13,660 lbs. steel. B. A. Jolivette, aud.

Ark., Rison—County soon receives bids building steel bridge over Saline River. Address E. R. Buster, Kingsland.

Okla., Ada.—See "Streets and Roads."

Okla., New Castle—Oklahoma and Grady Co. appropriated $70,000 to build bridge over South Canadian River. Address Co. Clk., Oklahoma Co., Oklahoma.

Okla., Topeka—City and County preparing plans 45-ft. deck girder bridge over Butcher Creek, 20-ft. roadway, 2 5-ft. sidewalks. W. E. Baldrey, city engr.

Okla., Tulsa—County election to June 28 to vote on $40,000 bonds, to build north approach to county bridge; $30,000 to build viaducts.

Ariz., Clifton—Bd. Supervs. rejected bids steel arch bridge over Gila River. Noted May 4.

Wash., Montesano—G. D. Robertson, co. engr., preparing plans building combination bridge and approach at Prante bridge site.

Structural Steel Work (Continued)

Cal., Nicolaus—County soon lets contract building substructure bridge over Feather River. About $120,000. Address Co. Clk., Yuba City.

Ont., London—Canadian Pacific Ry. preparing plans rebuilding steel bridges and extending sidings. About $185,000. C. E. Stockdill, Winnipeg, Man., genl. mgr.

BIDS DESIRED

Fla., West Palm Beach—(Offical)—Until July 17 by Co. Comrs. building bridge over St. Lucie River; advertised in this issue.

Miss., Greenville—(Official) — Until July 2 by Bd. Supervs. building steel highway bridge over Granicus Bayou. J. S. Allen, co. engr.

O., Akron—(Official)—Until July 1 by F. R. Fauver, supt. pub. wks., Statehouse Annex, Columbus, for constructing steel dredge hull, together with all machinery pertaining thereto for ¾-yd. portable oiling burning dredge on Portage Lakes.

O., Warren—Until June 25 by Bd. Co. Comrs. building sunstructures and superstructures of Shade and Huston Bridges, Rd. No. 101, Sect. A, Newton Twp. M. H. Evans, clk.

Ind., Corydon—Until July 6 by S. C. Mauck, co. aud., constructing bridge at Corydon, 1 near Corydon and 1 at Lanesville.

Ind., Lanesville—See "Corydon, Ind."

Minn., Detroit—Until June 25 by J. A. Narum, co. aud., for 2 steel beam pile bridges for County Ditch No. 15, each one being 10-ft. span; also 3 18-ft. span and 7 15-ft. span steel beam pile bridges and 2 20-ft. 16-in. diam. steel or metal culverts.

Okla., Fairview—Until July 2 by Co. Comrs. building bridges and culverts.

Wash., Seattle—Until June 26 by Bd. Co. Comrs. for building Design "A" 180-ft. steel truss bridge, 1125-ft. approach, 20-ft. roadway. Design "B," 180-ft. wooden truss bridge, 1125-ft. approach, 20-ft. roadway. About $35,000 and $32,000 respectively.

Wash., South Bend—Until July 6 by Co. Comrs. for 80-ft. Howe Truss span with approaches across Salmon Creek, 1½ mi. east of Nasel; 60-ft. Howe Truss span across Salmon Creek, 4 mi. east of Nasel; clearing, grubbing, grading, draining and paving 1 mi. Natl. Park Highway. S. B. Henry, co. engr.

Wash., Tacoma—Until June 30 by Co. Comrs. building Bridge No. 26213A, over Hylebos Creek waterway, Lincoln Ave., Strauss trunnion bascule or Scherzer Rolling lift bridge, with trestle approaches, piers and fenders.

Wash., Wapato—Until June 25 by C. E. Barrett, co. aud., North Yakima, for bridge across Yakima River, 1 mi. from here.

Cal., Visalia—Until July 2 by Bd. Supervs. building 2 bridges on State Highway over Cameron and Packwood Creeks. G. R. Prestidge, clk.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**N. J., Newark**—Union Smelting & Refining Co. let contract for structural steel for new factory on St. Charles St. to Heddon Iron Constr. Co., Hillsdale Ave., $59,000.

★**Pa., New Kensington**—Allegheny and Westmoreland Co. Comrs. let contract reflooring inter-county bridge over Allegheny River to Swartz-Mannella Co., Pittsburgh, $13,750.

★**Pa., Sunbury**—Philadelphia & Reading R.R. let contract steel girder bridge over Little Shamokin Creek, 1-mi. east of Sunbury, to Phœnix Bridge Co., 49 William St., New York City.

★**O., Logan**—See "Streets and Roads."

★**O., Toledo**—County let contracts constructing bridges totaling $43,000 to F. R. Marsh, E. N. Oberle, Wynkoop-McGormley Co., J. Sheehan & Co., A. Bumpers, E. Webb and W. J. Demuth.

★**Ind., Muncie**—Co. Comrs. let contract building William Bridge to J. E. Clark.

★**Ill., Winchester**—County let contract building Mauvaisterre Bridge, Rd. Dist. No. 7 to Herrick Constr. Co. Noted May 31.

★**Ia., Des Moines**—City let contract University Ave. bridge to W. Horrabin Constr. Co., Iowa City, $390,867. Noted May 24.

★**Minn., Long Prairie**—County let contract bridge over County Ditch No. 40, involving about 96,940 cu.yd. excavation, to S. H. Adams, Long Prairie, $14,940.

★**N. D., Mott**—(Official)—County let contract building bridges during year to Iowa Bridge Co., Des Moines.

★**Okla., Stigler**—County let contract building bridges to Union Bridge Co.

★**Wash., Yale**—Clarke and Cowlitz Co. Comrs. let contract suspension bridge over Lewis River to Portland Bridge & Iron Co., Portland, $15,000. Noted June 14.

★**Ore., Coquille**—(Official) —County let contract bridge over South Fork of Coquille River to Portland Bridge Co., Portland, $25,990. Noted May 24.

REINFORCED CONCRETE

Proposed Work

N. Y., Binghamton—City Engineering Dept. preparing plans concrete bridge over Park Creek on Vestal Ave. G. A. Gibel, city engr.

N. J., Camden—Continental Aircraft Co., Pkway. Bldg., Phila., plans 2-story, 80 x 150-ft., concrete plant on 6th St. A. B. McCormick, secy.

Pa., Eddystone—Philadelphia, Baltimore & Washington R.R. plans to build rein.-con. bridges over Eddystone and Sayville Aves. J. C. Austin, Wilmington, asst engr.

Pa., Hershey—Hershey Chocolate Co., plans 6-story rein.-con. addition.

Pa., Mountville—State Dept. Health approved plans rein.-con. storage reservoir and rein.-con. roof on existing reservoir.

Pa., Phila.—Phila. & Reading Ry. completed plans rein.-con. bridge with viaduct approaches over Schuylkill River to connect South and West Phila. About $1,000,000. S. T. Wagner, Old Colony Bldg., Phila., ch. engr.

Pa., Steelton—Bethlehem Steel Co., South Bethlehem, plans 4-story, 60 x 400-ft. rein.-con. addition, Front St.

Md., Baltimore—Davis & Lamb, Fidelity Bldg., having plans prepared by W. M. Gieske, archt., Gunther Bldg., 4-story, 130 x 150-ft., rein.-con. office building on Maryland Ave.

Wis., Milwaukee — Natl. Co-operative Food Products Co., 781 44th St., plans 2-story, 60 x 120-ft. rein.-con. factory, 37th and Burnham Sts.

Ia., Des Moines—City plans to build 50 x 120-ft. concrete bridge on Forest Ave. About $13,000. J. M. Tippee, city engr.

S. D., Sioux Falls—(Official)—County rejected bids rein.-con. outlet spillway for D.D. Nos. 1 and 2. Noted May 31.

Idaho, Grangeville—Grangeville Electric Light & Power Co. plans to spend $75,000 for concrete dam to generate 1500 to 2000 hp. according to flow of water; also flume 1500 ft. long. This plant will supply towns and industrial establishments in vicinity. E. Enloe, 521 1st Ave., Spokane, Wash., pres.

Wash., Olympia—Council passed ordinance to build rein.-con. bridge over Des Chutes waterway on 4th St., also paving highway to city limits. About $129,476.

Cal., Los Angeles—Globe Grain & Milling Co. having plans prepared by Leonardt & Peck, archts., 356 South Spring St., for 2-story, 57 x 120-ft. rein.-con. office building.

Cal., Manteca—1st State Bank of Manteca having plans prepared by Sweetser & Baldwin Safe Co., archt., Marshall-Strong Bldg., Los Angeles, for rein.-con. building.

BIDS DESIRED

Ga., Montezuma—Until July 10 by Bd. Comrs., Oglethorpe, for rein.-con. deck girder bridge, 24-ft. clear span, 18-ft. roadway, near here, being first of series of concrete bridges costing $100,000. A. Pew, Atlanta, engr.

Ill., Paris—Until June 23 by Comr. Highways, for 1 20-ft. rein.-con. bridge and 12 concrete culverts.

Minn., Crookston—Until June 29th by County building 2 23-ft., 1 30-ft. and 1 18-ft. concrete and steel spans, also 2 6 x 4 x 24 and 1 6 x 4 x 34 rein.-con. culverts. E. H. Harding, co. engr.

Minn., Warren—Until July 2 by Bd. Co. Comrs. for 20 rein.-con. bridges at various points in county, varying in size from 12-ft. to 75-ft. span. About $70,000. O. Lind, Warren, engr. Noted May 31.

Wash., Tacoma—Until June 30 by co. comrs. for rein.-con. dock at Dash Point. D. H. White, co. engr.

Ont., Pefferlaw—Until June 25 by R. Cronsberry for rein.-con. truss bridge, 40-ft. clear span, over Black River, Georgina Twp. F. Barber, 40 Jarvis St., Toronto, engr.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Mass., Ft. Andrews**—City let contract 300,000-gal. concrete reservoir to Hallett-Grant Constr. Co., 136 Federal St., Boston, $18,149.

★**Mass., New Bedford**—(Official)—Belleville Storage Corp. let contract 7-story, 100 x 482-ft. rein.-con. storage warehouse to Turner Constr. Co., 244 Madison Ave., New York City.

★**Conn., Hartford**—State Highway Comn. let contract 3-span rein.-con. bridge over Hammonsett River, Clinton and Madison Twps. to J. G. Holbrook, Westbrook, $26,000; T-beam bridge, Colchester and Hebron Twps., and improving 1700 lin.ft. graded road to F. A. Wilcox, Norwich, $10,200. Noted June 14.

★**N. Y., Brooklyn**—(Official)—American Mfg. Co., Noble St., Greenpoint, let contract rein-con. coal pocket, 1000-ton capacity, to Turner Constr. Co., 244 Madison Ave., New York City.

★**N. Y., Long Island City**—Premier Metal Etching Co., 625 East 18th St., New York City, let contract 2-story, rein.-con. factory, 14th St. and Van Alst Ave., to J. O'Dell Whitenack, 231 West 18th St., New York City, $70,000.

★**Pa., Brownsville**—Vista Coal Co., Jones and Laughlin Bldg., Pittsburgh, let contract 2 concrete-lined shafts to Bravo Constr. Co., Diamond Natl. Bank Bldg., Pittsburgh.

★**Fla., Bartow**—See "Streets and Roads."

★**Ind., Indianapolis**—City let contract rein.-con. bridge across Pogue's Run on Michigan St. to T. R. Mead & Co., $12,975.

★**Ia., Toledo**—(Official)—County let contract building 14 rein.-con. culverts and 2 I-beam bridges to A. P. Munson, Marion, $14,306. Noted May 31.

★**Neb., Humphrey**—City let contract installing 100,000-gal. rein.-con. reservoir to Elkhorn Constr. Co., Fremont.

★**S. D., Leola**—(Official)—County let contract building 6 steel and concrete bridges to Whitewater Bridge Co., Aberdeen. About $10,000. Noted May 31.

★**Ariz., Yucson**—Santa Rita Hotel let contract rein.-con. addition to J. V. McNeil, Wesley Roberts Bldg., Los Angeles, $120,000.

★**Wash., Nisqually** — (Official) — State Highway Comn., Olympia, let contract rein. con. bridge over Northern Pacific R.R. tracks to W. J. Murphy, Tacoma, $28,440. Noted May 24.

STREETS AND ROADS

Proposed Work

N. H., Claremont—(Official)—City receiving bids about July 6 paving Main St., topeka surface, concrete base, plans include 8000-sq.yd. pavement, 2000 lin.ft. concrete curb, 1000-ft. sewers. G. P. Winn, Nashua, engr.

Mass., Northboro—City plans to repave portion Main St. About $10,000.

N. J., Asbury Park—Co. Comrs. plan to lay warrenite on 20-ft. roadway on Main St. About $12,000. W. A. Berry, mayor.

Pa., Williamsport—County voted $30,000 bonds to join state highway dept. in improving highways in county. Noted May 24.

Va., Portsmouth—County Rd. Comn., will appropriate $25,000 to be added to State Aid of $25,000 to build road from Portsmouth to Nansemond Co. line, macadam.

S. C., Saluda—County plans to build 25.7-mi. road between Ridge Springs and Greenwood Co. line. G. W. Langford, supervy.

Ga., Americus—County plans election to vote on $100,000 bonds to build roads and bridges.

Ga., Thomson—City plans to extend paving on Main St., brick.

La., Alexandria—Bd. Supervs., Rd Dist. No. 8, rejected bids building 15-mi. roads. New Bids. J. W. Texada, pres. Noted May 4.

Ky., Owensboro—(Official)—County soon lets contract improving Hardingsburg Rd., known as State Rd. No. 30 T1, involving 16,411 cu.yd. excavation, 193 cu.yd. concrete, 6443 tons broken stone or 4881 cu. yd. river gravel. J. Weir, clk.

O., Bryan—Council passed ordinance to grade, drain, curb, pave, Willison, High and Union Sts. About $15,000.

O., Cleveland—City plans to pave and improve portions of Crawford, Marsh, Elliott, Dickens, Otis and East 71st Sts. and Lake Shore Blvd. R. Hoffman, city engr.

Streets and Roads (Continued)

O., Columbus—City plans election in August to vote on $500,000 bonds to improve streets. H. Maetzel, city engr.

O., Toledo—County soon receives bids improving Peach, Bancroft, Glanzman, Michigan, Craig, Bay Rd., Bay Ave. extension and Bay Shore Blvd. About $120,000.

O., West Unity—Village plans to improve portion Michigan Ave.

Ind., Decatur—County sold $25,520 bonds to build roads.

Michigan—State Highway Comn., Lansing, plans to improve 9-mi. road from Montague to New Era.

Ill., Belleville—City soon lets contract improving portion Missouri Ave. W. C. Wolf, city engr.

Ill., Chicago—City plans to pave portion Bway. and South Chicago Ave., creosoted blocks. About $110,000 and $143,000 respectively. J. Ericson, city engr.

Ill., Highland Park—C. E. Russell, engr. for committee of mayors of 11 north shore cities between Chicago and Waukegan, submitted report on feasibility of military road to connect Great Lakes Training Stat. and Ft. Sheridan with Chicago. Mr. Russell stated that existing brick road could be repaired and connected up by 13 mi. new 24-ft. brick pavement to cost $730,000, said route to parallel Chicago & Northwestern Ry. A permanent brick road, 54-ft. wide, would cost $5,000,000.

Minn., Fergus Falls—County plans to spend $20,000 to build and improve state highways. W. A. Lincoln, aud.

Minn., Lake City—County plans to spend $34,297 to build portion State Rd. No. 1, from Kellogg to Smithfield, through Plainview and Elgin to Olmstead. State to appropriate $15,000 toward cost. J. Boss, co. aud.

Kan., Hiawatha—City plans to pave portion Kickapoo St. J. W. Liebengood, clk.

Kan., Nashville—Co. comrs. plans election to vote on $600,000 bonds to build 121-mi. macadam roads.

N. D., Minot—See "Buildings."

Mont., Great Falls — State Highway Comn. granted permission to Co. Comrs. to build 18-mi. graveled roadway between Great Falls and Sun River. Work to be done under supervision of State Highway Comn. About $40,000. P. Pratt, state highway engr.

Mo., Nevada—City voted $30,000 bonds to build road to Military Reservation. S. L. Higgins, clk.

Mo., Sikeston—County defeated $800,000 bonds to build roads. Noted Apr. 26.

Mo., Washington—City plans to pave portion 4th St. J. H. Conrads, clk.

Tex., Beaumont—City voted $300,000 bonds to build roads. C. L. Scherer, city engr.

Tex., Canadian—County voted $150,000 bonds to build roads.

Tex., Crosbyton—County plans to build roads and bridges, Rd. Dist. No. 1. About $50,000. J. K. Fullingim, co. comr.

Tex., Donna—City plans to spend $10,000 to improve streets.

Tex., Gorman—City voted $10,000 bonds to improve streets.

Tex., Pittsburg—County voted $30,000 bonds to build roads, Naples and Omaha Rd. Dists.

Okla., Ada—County plans election to vote on $650,000 bonds to build roads and bridges.

Okla., Ardmore—Bd. Comrs. plan to improve F St. W. R. Roberts, mayor.

Okla., Holdenville—Bernard Twp. voted $50,000 bonds to build roads.

Okla., Oklahoma—City plans to improve portion West Main St. G. V. McClure, city engr.

Okla., Okmulgee—County issued $800,000 bonds to build roads. G. E. Morton, clk.

Okla., Tishomingo—County voted $30,000 bonds to build roads, Garner Twp. A. Hatcher, engr. Noted Apr. 26.

Idaho, Grangeville—Grangeville Highway Dist. to appropriate $35,000 and Whitebird Dist. $15,000 to be added to state and federal appropriations to build North and South State Highway from Whitebird Ridge to Grangeville.

Idaho, Mackay—Co. Comrs. plan to spend $150,000 to build feeders to State Highway Post Rd. S. Ballard, co. engr.

Utah, Brigham—Co. Comrs. plan to build 1-mi. concrete road between Willard and Hot Springs.

Utah, Salt Lake City—City soon receives bids paving portions Center, 1st, 4th N., and 5th N. Sts. S. Q. Cannon, city engr.

Utah, Salt Lake City—State Highway Comn. and Federal Officials preparing plans building 129-mi. highways. About $404,000, ½ of cost to be borne by state and ½ by U. S. Government.

Ariz., Clifton—County voted $200,000 bonds toward cost of Clifton-Springerville Highway, about 71-mi. in length, to be built by U. S. Government, who will share ½ of cost. Noted Apr. 26.

Wash., Bellingham—County rejected bids building Geneva Highway. New Bids.

Wash., Centralia—City passed resolution to improve Washington, Locust, Walnut, Pear, Plum, Cherry, Chestnut, Silver, Iron, Rock, Oak, Ash, King and other streets by laying 5-ft. concrete sidewalks, also alley Block 14, Washington addition. L. M. Lee, clk. Noted Apr. 19.

Wash., Spokane—Council plans to pave, grade and sewer portion Mallon Ave.; paving to cost, $23,500; sewers $7700. M. Macartney, city engr.

Wash., Waterville—Co. Comrs. approved plans R. F. Foster, co. engr., building and improving roads during 1917 and 1918. About $250,000.

Ore., McMinnville—County will prepare 10- or 15-mi. roadbed for hardsurfacing during year.

Ore., McMinnville—Council plans to pave portion G and Balm Sts. About $12,000.

Ore., Oregon City—Co. Comrs. applied to State Highway Comn., Salem, to hardsurface about 8 mi. during year.

N. S., New Glasgow—Council plans to pave South St., cost, $14,000; North Provost St., $10,500. J. Roy, clk.

N. S., Sydney—City plans to improve Victoria Rd. R. McKinnon, acting city engr.

Que., Batiscan—City plans to build macadam highways. About $16,000. J. Fugire, clk.

Que., Chicoutimi—City soon lets contract building macadam roads. About $100,000. J. F. Trenon, engr.

Que., St. Alexis—City soon receives bids building macadam roads. About $35,000. J. Belanger, clk.

Ont., Sarnia—Council plans to pave Ross St., also build granolithic sidewalks on Devine, Russell and Stewart Sts. J. A. Baird, city engr.

Man., Winnipeg—City plans to build roads, asphalt. About $15,000. W. T. Brereton, engr.

B. C., Surrey—City voted $23,000 bonds to build and improve roads. C. Lemax, clk. Noted May 24.

BIDS DESIRED

Mass., North Adams—(Official)—Until June 26 by city repaving Union St.; advertised in this issue.

N. Y., Albany—(Official)—Until July 9 by State Comn., 55 Lancaster St., repairing highways in various counties; advertised in this issue.

N. Y., Long Island City—Until June 27 by M. E. Connolly, boro. pres., regulating and paving with permanent pavement on 6-in. concrete foundation, consisting of either wood block, asphalt block, iron slag, brick or vitr. brick in portion Van Alst Ave., 1st Ward; also regulating and grading sidewalk spaces and laying sidewalks where necessary on East side Beach, 94th St., 5th Ward.

N. Y., Poughkeepsie — (Official)—Until June 28 by Bd. Pub. Wks., paving various streets; advertised in this issue.

N. J., Hackensack—Until June 27 by Bd. Freeholders, paving 2nd Sect. Ft. Lee turnpike, rein.-con. J. M. Harkness, clk.

N. J., Rutherford—Until June 29 by Council paving Raymond St., asphalt. F. A. Stedman, boro. clk.

N. J., Rutherford—Until July 3 by Mayor and Council resurfacing and widening 21,925 sq.yd. Union Ave., B.C. grade A, telford and macadam foundation.

Va., Putnam—(Official)—Until July 10 by White Oak Lumber Co. for grading 6 mi. standard gauge log roads; advertised in this issue.

W. Va., Winfield—(Official)—Until July 9 by County building 6-mi. road, Pocatalico Dist.; advertised in this issue.

Miss., Aberdeen—Until July 10 by County improving 49-mi. sand-clay roads. About $50,000 available.

La., Grethna—(Official)—Until June 29 by C. F. Gelbke, mayor, and Bd. Aldermen, for paving Copernicus, 1st, Washington, Anson, Monroe, 2nd, and Monroe Sts., bitulithic and small granite blocks on concrete subbase.

Tenn., Erwin—Until July 10 by O. E. Bogart, city recdr., paving and grading 14,000-sq.yd., including concrete curb and gutter, sidewalks, also installing storm sewers with sanitary house connections. H. W. Morgan, engr.

Tenn., Fayetteville—Until June 26 by H. Higgins, city clk., paving 12,000-sq.yd. Court Sq., wood block, vitr. brick, sheet asphalt or cement concrete; concrete curb and gutter, also installing pipe sewers, etc. W. T. Kirkpatrick, 704 Farley Bldg., Birmingham, engr.

Tenn., Knoxville—(Official)—Until June 26 by J. W. Flenniken, comr. streets and pub. improv. resurfacing about 35,000 sq. yd.; advertised in this issue.

Ky., Danville—(Official)—Until June 28 by Council improving portion Main St., wood block, sheet asphalt, bituminous concrete or vitr. block, including cement concrete sidewalks. S. F. Crecelius, city engr.

Ohio—Until June 27 by State Highway Comn., Columbus, building roads in various counties. C. Cowen, Comr.

Ind., Lafayette—(Official)—Until July 3 by Bd. Co. Comrs. building 2.06-mi. brick road, Fairfield Twp.; advertised in this issue.

Minn., Buhl—Until July 2 by City paving portion Mercer, State, Frantz, Sharon and Grand Sts.

Neb., Red Cloud—Until June 28 by City paving 15,000-sq.yd. and 4000 lin.ft. curb and gutter.

Tex., Austin—Until June 25 by H. W. Austin, city purch. agt., paving and widening portion Payne Ave. and Minnehaha St.

Wash., Port Angeles—Until July 3 by Co. Comrs. clearing, grading, grubbing, bridging and graveling permanent Highway No. 7. A. U. Blackwood, co. engr.

Wash., Shelton—Until July 2 by Co. Comrs. building Sect. 2 Permanent Highway No. 4; also for Olympic Highway between Hoodsport and Potlatch. A. L. Ward, co. engr. Noted May 24.

Wash., South Bend—See "Structural Steel."

Wash., Vancouver—Until July 6 by Co. Comrs., building 3-mi. hard surfaced roads. About $40,000. B. L. Dorman, co. engr. Noted June 7.

Wash., Waterville—Until July 2 by Co. Comrs. building highway in Local Improvt. Dist. No. 3. About $13,500. R. F. Foster, co. engr.

Ore., Elgin—Until June 29 by L. B. Tuttle, city recdr., building concrete sidewalks.

Ore., Warrenton—Until June 28 by Co. Comrs., Astoria, building portion County Rds. No. 17 and 57 through city of Warrenton. About $16,500.

Cal., Martinez—Until July 2 by J. H. Wells, co. clk., building 11-mi. highway from Walnut Creek to Bay Point, Div. Nos. 5 and 6.

Calif., San Jose—Until July 2 by H. A. Pfister, co. clk., improving Saratoga, Los Gatos, Montague and Lewis Highways and McLaughlin and Carlos Sts.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★N. H., Portsmouth—Bd. Pub. Wks. let contract paving Middle and Daniel Sts. to Warren Bros., 142 Berkley St., Boston, $51,305.

★Mass., Mattapoisett — State Highway Comn., Boston, let contract surfacing roads to B. F. Watkins, 500 Acushnet Ave., New Bedford.

Mass., Spencer—State Highway Comn., Boston, received low bid building 8300-ft. highway from T. A. Moynihan, South Hamilton, $11,100.

★N. Y., Brooklyn—L. H. Pounds, boro. pres., let contract regulating, grading, curbing and laying sidewalks portion Ave. T to N. Caponi, 1320 65th St., $8180; regulating and repaving with permanent grade portion of West Ave. to Leonard Paving Co., Inc., 233 Bway., New York City, $19,792; regulating and laying asphalt pavements portion of West 33rd and 77th Sts. to Borough Asphalt Co., 1301 Metropolitan Ave., $5496 and $6174 respectively; repaving where directed cement walks of small parks to J. L. Brennan, 233 West 167th St., New York City, $41,650.

N. Y., New York — (Official) — M. M. Marks, boro. pres. received low bid regulating and repaving portion Monroe St., from W. J. Fitzgerald, 547 West 45th St., $10,872. Noted June 14.

N. Y., New York—(Official)—M. M. Marks, boro. pres. received low bids paving (a) 6th Ave. (b) 19th St., (c) 9th Ave.

Streets and Roads (Continued)

(d) 44th St. (e) 48th St. without binder (f) 48th St. (g) 57th St. (h) Lenox Ave. from Sicilian Asphalt Paving Co., 41 Park Row, (a) $21,236 (b) $10,396 (c) $29,639. Asphalt Constr. Co., Madison Ave. and 137th St., (a) $18,807, (b) $10,621 (c) $27,377 (d) $20,361 (e) $27,649 (f) $27,787 (g) $14,498 (h) $69,152; Uvalde Asphalt Paving Co., 1 Bway., (a) $19,860 (b) $11,-163 (c) $27,105 (d) $20,640, (e) $27,222 (f) $27,222 (g) $12,039 (h) $70,256.

★**N. Y., New York**—(Official)—City let contract regulating, etc. on Broome St. to Cleveland Trinidad Paving Co., Park Terrace from 217th to 218th Sts., Cramer & Leedke; Academy St., M. Baird, 433 East 92nd St., 86th St., Park Terrace from 215th to 217th Sts., Asphalt Constr. Co., Madison Ave. and 137th St., Jefferson St., W. J. Fitzgerald, 547 West 45th St., 217th St., Dabney Asphalt Co.

★**N. Y., Olean**—Comrs. Pub. Wks. let contract paving and installing storm water sewers portion East Pine St. to H. E. Bunce, 125 Fulton St., $17,460. Noted Apr. 26.

N. J., Elizabeth—Bd. Pub. Wks. received low bids paving Market St., from Uvalde Asphalt Paving Co., 2 Greene St., $30,034; and Standard Bithulithic Co., 31 Clinton St., $30,522.

★**N. J., South Orange**—Village let contract paving Center St. to L. Batt, 22 Irvington Ave., $20,771.

★**N. J., Trenton**—City Comn. let contract paving 6000-sq.yd Brunswick Ave. and 12,000-sq.yd. South Broad St., to C. A. Reed & Co., 623 Monmouth St. Noted May 4.

★**N. J., Ventnor City**—City let contract paving streets, sheet asphalt, to W. Quinlan, Delaware and Mediterranean Aves., Atlantic City, $60,000.

★**N. J., Westfield**—Boro let contract paving 21,000 sq.yd. concrete and 5280 ft. concrete curb to C. W. Matthis & Co., Seaside Park, $20,000.

Pennsylvania—(Official) — State Highway Dept., Harrisburg, received low bids highways in various counties as follows: Dauphin Co., Stucker Bros. Constr. Co., Russ Blk., Harrisburg, $18,192; F. J. Reily, Lancaster, $18,887; Clarion Co., Clarion and Paint Twps., M. J. Scanlon, New Castle, $106,167; Greene Co., Center Twp., J. W. Hallam, Washington, $28,732; Reed, Yoders & Moore, Waynesburg, $32,300; R. Swan, Jr., Co., Pittsburgh, $48,816. Noted May 17.

★**Pa., Phila.**—Dept. Pub. Wks. let contract repairing Woodland Ave to J. J. McHugh, 1430 South Penn Sq., $80,000.

★**N. C., Yadkinville** — (Official) — Co. Comrs. let contract for 27 mi. sand clay roads to J. S. Graham, Yadkinville. Noted May 17.

★**S. C., Beaufort**—City let contract 13,000 sq.yd. vitr. brick pavement to Southern Clay Mfg. Co., James Bldg., Chattanooga, $21,390.

★**S. C., Charleston**—City let contract paving 20,000 sq.yd. sheet asphalt, and 1000 sq.yd. creosoted wood block to Lawson Constr. Co., Essex Bldg., Norfolk. Noted June 14.

★**Fla., Bartow**—(Official)—Co. Comrs. let contract paving 46.5-mi. roads, Winter Haven Special Rd. and Bridge Dist., to Eureka Paving Co., Haines City, Fla., and Huston Tex., building 9 rein-con. bridges to Blodgett Constr. Co., Montgomery, Ala. Noted May 10.

★**Fla., Ft. Lauderdale**—(Official)—County let contract hard surfacing 8-mi. road in Special Rd. and Bridge Dist. No. 1 to Bryan & Snyder, Ft. Lauderdale, $15,000; 7-mi. to Sturgis & Oliver, Ft. Lauderdale, $24,000. Noted May 17.

★**Fla., Palatka**—County let contract building roads to Cornwell Constr. Co., Tampa, $71,000.

★**Tenn., Harriman**—County let contract 30 mi. sandstone bed and limestone finished road to Carr Contr. Co. About $70,000.

★**Ky., Owensville**—City let contract paving 35,000-sq.yd. streets, bituminous concrete, to Andrews Asphalt Paving Co., Maple Ave., near East Ave., Hamilton, $46,291. Noted June 14.

Ohio—State Highway Comn., Columbus, received low bids, June 14, building roads in various counties as follows:

Athens Co., Section "B", Ripley-Hillsboro Rd., grading roadway, providing necessary drainage structures and paving with waterbound macadam, 5.49 mi., B. F. Eddy & W. A. Brannock, Athens, $21,746;

Coshocton, Co., Sect. "D" New Comerstown-Coshocton Rd., constructing bridges and culverts, grading roadway and paving with waterbound macadam and monolithic brick, 3.09 mi., T. J. Norman & Son, Canal Dover, $57,625;

Fulton Co., Sect. "L" Toledo-Wauseon Rd., constructing bridges and culverts, grading roadway and paving with bituminous macadam, 1.34 mi. alternative bids were also received, Zeller & Drum, Swanton, $18,029 and $17,084; Gray Bros., Bowling Green, $17,500;

Fairfield Co., Sect. "M-2" Cincinnati-Zanesville Rd., constructing bridges and culverts, grading roadway and paving with 1 of following types, C. E. Williams, Grand Rapids, Mich., bituminous (asphaltic A-ic) macadam, $54,193;

Fulton Co., Sect. "K-1" Toledo-Angola Rd., constructing bridges and culverts, grading roadway and paving with waterbound macadam 1.25 mi., Barnes & Talbot, Rocky Ridge, $12,889;

Fulton Co., Sect. "A-1" Liberty-Adrian Rd., grading roadway, building bridges and culverts and paving with waterbound macadam, 1.12 mi., Gray Bros., Bowling Green, $11,300; Barnes & Talbot, Rocky Ridge, $11,334;

Hancock Co., Sect. "B-1" Findlay-Kenton Rd., constructing concrete beam bridge, Wilson & Liles, Forest, $5194; Gluss Bros., Hamler, $5573; W. S. Albrink, Napoleon, $5727;

Knox Co., Sect. "K" Mt. Vernon-Coschocton Rd., constructing culverts and bridges, grading roadway and paving with waterbound macadam, 1.48 mi., Mack Gledhill, Galion, $22,977; Baker Constr. Co., Columbus, $23,069; W. G. Mustard, Ada, $23,-299.

Medina Co., Sect. "L-2" Barberton-Greenwich Rd., constructing drainage structures, grading roadway and paving with concrete, 1.23 mi., Crawford & Little Co., Elyria, $16,597;

Morgan Co., Sect. "P" McConnelsville-Marietta Rd., constructing bridges and culverts, grading and paving with brick, 2.01 mi., W. H. Quigley, McConnelsville, $51,-832; John Hipskind & Co., Richmond, Ind., $52,089;

Pickaway Co., Sect. "N" Cincinnati-Zanesville Rd., constructing bridges and culverts, grading roadway and paving with waterbound macadam, 2.23 mi., R. L. Row, Circleville, $18,973; Brewer, Tomlinson & Brewer, Chillicothe, $19,012; Rightsell & Long, Logan, $19,275; O. M. Junk, Chillicothe, $19,275;

Pike Co., Sect. "I" Portsmouth-Columbus Rd., constructing culverts, grading and paving with brick on concrete foundation, 1.04 mi., Bolin & Wilt, Washington, C. H., $30,-535; O. M. Junk, Chillicothe, $30,850;

Trumbull Co., Sect. "H" Ravenna-Warren Rd., constructing Duck Creek Bridge (replacing superstructure complete), G. Stein, Niles, $2643; R. F. Moran, Courtland, $2695;

Vinton Co., Sect. "G" Mcarthur-Athens Rd., constructing pavement, 1.57 mi., Kuehner & King, Mcarthur, $5349;

Washington Co., Sect. "M" of Hockingport-Powhatan Rd., shaping roadway and paving with concrete (plain and reinforced), 1 mi., Straw & Huber, Paulding, $21,542; S. A. Palmer, Marietta, $21,623;

Washington Co., Sect. "O" Marietta-McConnellsville Rd., constructing bridges and culverts and paving with plain concrete, 1.0 mi., McIlfresh, Danford Co., Caldwell, $19,579; Straw & Huber, Paulding, $19,-673; Lewis & Turner, Logan, Ohio, $19,-696;

Williams Co., Sect. "C" Bryan-Edgerton Rd., constructing bridges and culverts, grading roadway and paving with 1 of following types, Kelly Constr. Co., Bryan, waterbound macadam, $55,941; Westrick & Coady, Holgate, $54,803; Feulling & Krudop, Ft. Wayne, Ind., $55,409; bituminous macadam, Westrick & Coady, Holgate, $65,984; Fuelling & Krodop, Ft. Wayne, Ind., $66,560; Kelly Constr. Co., Bryan, $67,092;

Ashland Co., Sect. "C" Ashland-Loudonville Rd., surface treating with bituminous material, 2 mi.; Sect. "D" Ashland-Oberlin Rd., surface treating with bituminous material, 1.6 mi., Barrett Mfg. Co., Cleveland, $3028;

Clark Co., Sect. "D" Springfield-Urbana Rd., surface treating with hot oil, 1 mi.; Sect. "E" National Rd., surface treating with hot oil, 2.24 mi., Atlantic Refining Co., Columbus, $2834;

Defiance Co., Sect. "A" and "B", Archbold-Defiance Rd., treating with tar, [illegible] miles, Barrett Mfg., Co., Cleveland, [illegible] $2159;

Erie Co., Sect. "F" Cleveland-Sandusky Rd., surface treating with bituminous material, 1.5 mi., E. F. Hoffman, Castalia, $1250; Atlantic Refining Co., Columbus, $1254; Sect. "I" surface treating with tar, 1.15 mi., E. F. Hoffman, Castalia, $[illegible] Barrett Mfg. Co., Cleveland, $708;

Fayette Co., Sect. "A", "B" and [illegible] Washington - Bloomingburg Rd., surface treatment, lengths of section "A" and "[illegible]" 21,291 ft., length of section "C", 2417 to Atlantic Refining Co., Columbus, $3811;

Franklin Co., Sect., "D-2" of I. C. H. No. 49, length, 1245 ft. Sect. "H-2" of I. C. H. No. 50, length 32,760 ft. surface treating with asphalt, Atlantic Refining Co., Columbus, $5990; Citizens Rd., Preserving Co., Cincinanti, $6019;

Fulton Co., surface treatment with cold oil: Sect. "I" I. C. H. No. 21, length 5300 ft., Sect. "C," I. C. H., No. 301, 5305 ft. Sect. "G", 7977 ft., Sect. "J", 5285 ft., Sect. "D", 5371 ft., Sect. "A", I. C. H. No. 20, 5284 ft., Atlantic Refining Co., Columbus, $1535; Sect. "H" Toledo-Angola Rd., surface treating with tar, 2.52 mi., Barrett Mfg. Co., Cleveland, $1969;

Hancock Co., surface treating with tar: Sect. "C", I. C. H. No. 220, length, 9280 ft. Sect. "B", I. C. H. No. 22, 6547 ft., Sect. "E", 5400 ft., Barrett Mfg. Co., Cleveland, $4247;

Hardin Co., surface treating with hot oil: Sect. "A" Marysville-Kenton Rd., 2 mi. Sect. "C" and "D" of Findlay-Kenton Rd., 2 mi., Atlantic Refining Co., Columbus, $2738;

Henry Co., Sect. "C" Holgate-Kiersville Rd., surface treating with tar, 2.05 mi., Barrett Mfg. Co., Cleveland, $1823;

Lake Co., Sect. "A" Painesville-Warren Rd., scarifying old road, widening to 14 ft., adding new stone to base and putting on 3-in. top course of asphalt macadam, 1.52 mi., J. C. DeVine Co., Alliance, $15,470;

Lawrence Co., Sects. "B" and "E" of I. C. H. No. 7 and Sects. "A" and "C" of I. C. H. No. 404, surface treating with bituminous material (tar), length Sects. "B" and "E", 1.73 mi., "A" and "C", 2.50 mi., Barrett Mfg. Co., Cleveland, $4040;

Lorain Co., Sect. "P" Oberlin-Norwalk Rd., constructing drainage structures, grading roadway and paving with asphalt macadam, Elyria Constr. Co., Elyria, $15,-328; Hart & Kemp, Elyria, $14,839; Sect. "R" Oberlin - Elyria Rd., constructing drainage structures, grading roadway and paving with bituminous macadam, C. E. Williams, Grand Rapids, Mich., $16,847; Elyria Constr. Co., Elyria, $16,906;

Medina Co., Sects. "N" and "O" Cleveland-Wooster Rd., grading roadway and paving bituminous macadam, 3.4 mi., alternative bids were also received, G. S. Mellert, Medina, $27,821 and $26,765; Kennedy-Warner Co., Medina, $26,137;

Paulding Co., surface treating with cold oil: Sect. "C", I. C. H. No. 433, length 15,931 ft., Sect. "F"", I. C. H. No. 427, 7320 ft., Sect. "D", I. C. H. No. 431, 5280 ft., Sect., "H", 5412 ft., Sect. "E", I. C. H. No. 425, 5296 ft., Atlantic Refining Co., Columbus, Ohio, $2,361;

Preble Co., surface treating with hot oil: Sect. "E" of Dayton--Indianapolis Rd., Sect. "C" of Hamilton-Eaton Rd., H. W. Curry & Co., Eaton, $4335;

Sandusky Co., Sect. "M" I. C. H. No. 275, length 13,489 ft., Sect. "H-2", 16,576 ft., Sect. "I-1", 17,950 ft., Sect. "K-1", 18,130 ft., Sandusky Co. on Sect. "J-3," 12,363 ft., surface treating with cold oil, Atlantic Refining Co., Columbus, $3607; Sect. "J-1" Fremont-Bellevue Rd., surface treating with tar, 3.21 mi., Barrett Mfg. Co., Cleveland, Ohio, $2862; Sect. "A-1", No. 227, 8115 ft.; Sect. "H" No. 22, 5572 ft.; Sect. "F" No. 281, 10,551 ft.; Sect. "N" No. 281, 5432 ft.; Barrett Mfg. Co., Cleveland, $5402; Sect. "E" Fremont-Perrysburg Rd., surface treating with cold oil, 1.44 mi., Atlantic Refining Co., Columbus, $608;

Shelby Co., Sect. "B-1" Piqua-St. Marys Rd., repairing substructure and superstructure of bridge, Boyer & Paul, Watkins, $1283; G. C. Hardin, Sidney, $1358;

Summit Co., Sects. "A" and "C" (macadam portion) Akron-Medina Rd., surface treating with bituminous material, Barrett Mfg. Co., Cleveland, $3545;

Williams Co., surface treating with tar: Sect. "A", No. 307, 9032 ft., Sect. "M" No. 303, $10,933 ft., Sect. "I" No. 311, 7919 ft., Barrett Mfg. Co., Cleveland, $5306.

★**O., Columbus**—A. Borden, ser. dir., let contract paving Maryland Ave. to A. G. Pugh, $28,991; 5th Ave. to Cleveland Trinidad Paving Co., 420 Lakeside Ave. N. E., Cleveland, $26,649.

Streets and Roads (Continued)

★**O., Findlay**—County let contract building stone roads as follows: Boss German and Smith Rds. to Orwick Bros.; Uhling and Orange Twp. Rds., C. L. Biggs; Worst and Houston Rds., Johnstone Bros.; Robinson Rd., McNeel & Son.

★**O., Kent**—City let contract paving 9000-sq.yd. streets, asphaltic concrete, to Federal Asphalt Paving Co., Hamilton, $27,854. Noted Apr. 26.

★**O., Lebanon**—City let contract paving 6545-sq.yd., vitr. brick, to H. Strodbeck, Middletown, $23,561.

★**O., Logan**—County let contract paving 3-mi. McArthur-Logan Rd., macadam, including concrete arch, twin span bridge and several small culverts to E. C. Roudebush, Logan, $35,000.

★**O., Marysville**—Co. Comrs. let contract building Wenger Rd., Darby and Jerome Twps. to C. Deihl, $17,200.

★**O., Middletown**—City let contract paving Cincinnati Pike to Biggler Bros., Middletown, $23,000.

O., Springfield—City received low bids paving streets (a) asphalt (b) aztec or texico (c) wood block, as follows: 1st portion Columbia St., R. J. Kavanaugh, 337 West Grand Ave., (a) $40,832 (b) $40,165; 2nd portion (a) $8489 (c) $10,315; Belmont St., Coffery & Cooney, (a) $11,865 (b) $11,695; High St., J. J. McHugh, 228 East St., (a) $14,381 (b) $14,077. Noted June 7.

★**O., Springfield**—City let contract paving portion North St. to F. M. Ryan. Noted May 24.

★**O., Wooster**—Co. Comrs. let contract paving Burton City Eastern Rd. to Lee, Briggs & Anderson, Millersburg, $20,847. Noted May 24.

★**Ind., Corydon**—County let contract building 5¾ mi. stone road to G. C. Doolittle, Corydon.

★**Ind., Elkhart**—(Official) — Bd. Pub. Wks. let contract paving 2 streets, asphalt to Federal Asphalt Co., Hamilton, $24,150; 4 streets, brick, to Northern Constr. Co., Elkhart, $25,750. Noted May 10.

★**Ind., Rushville**—County let contract building 2 mi. roads to W. Rhineheintt, Rushville, $15,195.

★**Ind., Terre Haute**—Co. comrs. let contract building Patrick Malone Rd. to Carpenter Constr. Co., $53,719.

★**Mich., Flint**—County let contract building 12-im. concrete roads to R. D. Baker Co., Penobscott Bldg., Detroit; 13-mi. asphalt concrete roads to Globe Constr. Co., 106 West Water St., Kalamazoo. Total cost, $450,000.

★**Illinois**—State Highway Comn., Springfield, let contract building earth road, Carroll Co., to Gund-Graham Co., 54 East Stephenson St., Freeport, $13,208; gravel road, Putnam Co., to Concrete & Products Co., Granville, $5289; Bldg., Peoria Co., Route 2, Canterbury Bros., Peoria, $30,282.

★**Ill., Berwyn**—City let contract paving Cuyler and Highland Aves. to H. G. Goelitz, 810 North Blvd., Oak Park. Noted May 10.

★**Ill., Chicago**—County let contract improving Dundee Rd., Wheeling and Northfield Twps., to A. Ward, Oak Glen.

★**Ill., Cicero**—Town let contract paving portion West 19th St. to H. G. Goelitz, 810 North Blvd., Oak Park, $21,747; portion West 16th St. to Peerless Engr. Constr. Co., 122 West Washington St., Chicago, $1729.

★**Ill., Joliet**—City let contract paving Wilcox and Comstock Sts. to Conway Constr. Co., $38,896 and $17,540 respectively.

★**Ia., Eldon**—City let contract paving 12,750-yds. to Ford Paving Co., Cedar Rapids, $2.20 per yd.

★**Minn., Brainerd**—City let contract paving 17 blocks to E. A. Dahl & Co., Duluth. Noted May 10.

★**Minn., Duluth**—City let contract grading Farrell Rd. to D. H. Clough & Co., 914½ East 1st St. Noted June 14.

★**Minn., Rochester**—City let contract paving 1st, Monroe and State Sts. to Fielding & Shepley, University Ave., St. Paul.

★**Minn., St. Cloud**—City let contract paving 1st and 7th Aves. to General Constr. Co., 1254 Plymouth Bldg., Minneapolis.

★**Kan., Wichita**—City let contract paving streets to E. C. Stewart, $17,510; Security Paving Co., 1004 Orear-Leslie Bldg., Kansas City, Mo., $27,765.

★**Neb., Beatrice**—City let contract paving in Dists. 4, 25, 26 and 27 to Abel Constr. Co., Lincoln, $1.90 per yd., sheet asphalt, $1.70 asphaltic concrete.

★**N. D., Hettinger**—Co. comrs. let contract building roads to E. Texley, Stowers, and A. Leff, Reeder. Noted Apr. 12.

★**Mont., Helena**—City let contract paving portion Placer Ave. to D. C. Sweeney, $12,282.

★**Mo., Maysville**—City let contract paving streets to C. T. Petry, Marshall.

★**Ark., Russellville**—City let contract paving 24,000 sq.yd. in Paving Improv. Dist. No. 1 to J. B. Bateman, $30,369.

★**Okla., Okmulgee**—City let contract 6 blocks paving to Barrett Co., 1st St. N. W., and Campbell St., Kansas City, Mo. About $17,838. Noted June 14.

★**Colo., Boulder**—City let contract paving streets to Strange-Maguire Paving Co., Utah Savings & Trust Bldg., Salt Lake City, $90,000. Noted May 17.

★**Idaho, Lewiston** — Lewiston-Highway Dist. let contract building 9½-mi. highways to Mitchell Bros., Spokane, $68,073.

Ariz., Phenix—City received low bid improving Washington and Roosevelt Sts. from D. Jones, $33,600.

★**Washington**—(Official) — State Highway Comn., Olympia, let contracts building portions of Pacific Highway as follows: Lewis Co., Toledo to Forest, to Hendricks & Ward, Centralia, $7240; Standard Transfer Co., Aberdeen, $39,626; Thurston Co., Highway No. 2-C, Independent Asphalt Paving Co., 2601 Railroad Ave., Seattle, $62,581; King Co., Orillia to Renton. P. J. McCormick, Seattle, $12,883.

★**Washington**—State Highway Comn., Olympia, let contract constructing Pacific Highway north from Junction, Jefferson Co., to Erickson Constr. Co., Downs Block, Seattle, $46,130.

★**Wash., Bellingham**—County let contract paving 12-mi. Northeast Diagonal highway to Washington Paving Co., Smith Bldg., Seattle, $192,000.

★**Wash., Seattle**—County let contract paving 5 mi. Bellevue-Medina-Houghton Highway to J. L. Smith, 1475 20th Ave., N., about $96,000. Noted May 31.

Wash., South Bend—Co. Comrs. received low bid building portion Permanent Highway No. 3-B from K. L. Goulter, Seaview, $19,812. Noted May 31.

★**Wash., Spokane**—County let contract paving Appleway between Dishman and Green Acres to C. M. Payne, Spokane, $56,270.

★**Wash., Tacoma**—City let contract paving streets and roads to American Lake military camp to Barrett Co., 17 Battery Pl., New York City.

★**Ore., Astoria**—Council let contract paving Kensington, 4th, 5th and 6th Sts. to J. H. Tillman, Portland, $13,147.

★**Ore., Coquille**—County let contract building 10-mi. highway between Glasgow and Hauser to Grant Smith & Co., Henry Bldg., Seattle, $60,000. Noted May 31.

★**Ore., Tillamook**—County let contract building Bayocean Highway to A. Arstill, $16,578.

California—State Highway Comn., Sacramento, let contract building roads in various counties as follows: Tulare Co. to G. S. Benson & Sons, 521 Stimson Bldg., Los Angeles; J. H. Shafer, 1614 Temple St., Los Angeles, M-R Co., Inc., 1104 Holingsworth Bldg., Los Angeles; Solano Co. to T. M. Olney, 356 Vernon St., Oakland; Santa Barbara Co. to W. A. Dontanville, Salina; Shasta Co. to Conners, Green & Co., Eureka; Ventura Co. to Conner Contr. Co., 709 Higgins Bldg., Los Angeles. Noted May 17.

Cal., Napa—County received low bids building 4.76-mi. concrete highway betwee Greenwood Hill and county line from W. J. Schmidt, Cedar and Sacramento Sts., Berkeley, $68,000; Worwick Constr. Co., $85,000; A. Teichert & Sons, $86,000.

★**Cal., Quincy**—County let contract building highway, Beckwith Dist., to Plinco Copper Co. Noted May 24.

Cal., Redding—Bd. Supervs. received low bids building state highway from northern boundary to Hazel Creek, from Conners, Green & Co., Eureka, $140,001; R. Sherer, Pacific Electric Bldg., Los Angeles, $150,148; Palmer & McBryde, $155,922. Noted Apr. 5.

Cal., Sacramento—Bd. Supervs. received low bids grading and paving Highway No. 1, Marysville Rd., from Contra Costa Constr. Co., 2323 Shattuck St., Berkley, $30,013 and M. Blumenkranz & Son, Stockton, $33,343. Noted May 31.

★**Cal., San Francisco**—City let contract improving McKinnon Ave. to Flinn & Treacy, 1st National Bank Bldg.

★**Cal., Santa Barbara**—City let contract paving various streets to Fairchild-Gilmore-Willton Co., Pacific Electric Bldg., Los Angeles, $84,516.

★**Cal., Santa Barbara**—County let contract grading highway to Jalama Ranch to R. Sherer, Pacific Electric Bldg., Los Angeles, $10,000.

★**Cal., Seal Beach**—(Official)—City let contract paving portion Main St. and Ocean Ave. to Wells & Bressler, Santa Ana, 11½c per sq.ft., $75 for culverts.

★**Cal., Ventura**—County let contract paving Div. 11, Ventura Co. Highway, to C. H. Hudson, Trust & Savings Bldg., Los Angeles, $14,081.

★**Ont., Amherstburg**—City let contract laying rein.-con. pavements during year to A. Pettypiece, Ltd., $50,000.

RAILWAYS--STEAM & ELECTRIC

Proposed Work

Georgia—Savannah & Atlantic Ry. will increase its capital stock from $50,000 to $2,500,000, and will spend $1,750,000 for developments and extensions. L. B. Ackerman, Savannah, ch. engr.

Florida—Florida East Coast R.R. soon begins construction on extension from Homestead to Cape Sable regions. E. B. Carter, St. Augustine, ch. engr.

Louisiana—New Iberia & Northern R.R. plans extension from Charenton to Patterson, about 20-mi.; also from Patterson to Morgan City, about 4-mi. W. E. Guy, 401 Locust St., St. Louis, vice-pres.

Utah—Pub. Utilities Comn. of Utah granted permission to Salt Lake & Utah R.R. to construct line from Granger to Magna. W. C. Orem, Salt Lake City, mgr.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**West Virginia**—(Official)—Virginia Ry. let contract 6-mi. double track work on 6-mi. line near Herndon to Rinehart & Dennis Co., Jefferson Natl. Bank Bldg., Charlottesville, Va.

★**Wisconsin**—Minneapolis, St. Paul & Saulte Ste. Marie let contract grading cut-off at Chippewa Falls to Roberts Bros., 17 North La Salle St., Chicago. About $100,000.

★**Idaho**—Oregon Short Line let contract 2 feeder lines, 1 from Lincoln on new loop line southward and to east of Idaho Falls joining main Montana branch at Firth, about 30 mi.; also line from Idaho Falls 7-mi. northwest, to Utah Constr. Co., Phelan Bldg., San Francisco.

★**California**—Western Pacific R.R. let contract reconstructing line on Nevada-California-Oregon Ry., between Chilcoot and Reno, Nev., to Utah Constr. Co., Phelan Bldg., San Francisco. Noted May 17.

EXCAVATION AND DREDGING

Proposed Work

Fla., Miami—Reclamation—Southern D.D. plans to reclaim 120,000 acres. G. T. Morgan, secy.

Miss., Yazoo City—Reclamation—Rocky Bayou D. D. will be organized to reclaim 17,000 acres land. Address Co. Comrs.

O., Marion—Ditch—Marion and Wyandot Cos. made surveys Big Tymochtee Creek Ditch. Bonds for $81,000 will be sold Aug. 3.

Ill., Morris—Drainage—W. H. Zarley, Joliet, is engineer for Claypool D. D., formed to drain land in Grundy and Will Cos., taking in towns of Coal City and Wilmington. About $74,000.

Ia., Storm Lake—Drainage—Buena Vista, Calhoun, Pocahontas and Sac Cos. plan joint drainage dist. About $1,000,000.

Neb., Scottsbluff—Drainage—Scottsbluff D. D. having plans prepared 4000 acres open ditch work. Bids in August. About $25,000. C. A. Liljenstolpe, Scottsbluff, engr.

S. D., Sioux Falls—See "Reinforced Concrete."

Ore., Portland—See "Sewers."

Cal., Auburn—Irrigation—Horne Development Co. plans dams on Painter and Buckhorn Creeks to impound water for irrigation purposes. About $71,000.

Cal., Lassen—Canals and Dam—Baxter Creek Irrigation Dist. plans to issue $310,000 bonds to construct canals and dam. Bids will soon be received. H. S. Martin, ch. engr.

Excavation and Dredging (Continued)

Cal., Modesto—Dam—F. C. Herrmann, Merchants Exchange Bldg., San Francisco, will supervise enlargement of LaGrange Dam for Modesto Irrigation Dist.

Cal., Susanville—Irrigation—Baxter Creek Irrigation Dist. voted $310,000 bonds to install irrigation system.

Ont., Tilbury—Drainage—Twp. Council plans tile drainage work. About $100,000. H. J. Rocheleau, Stony Point, clk.

BIDS DESIRED

N. J., Trenton—Dredging—Until July 2 by Dept. Commerce and Navigation for dredging section of proposed inland waterway connecting Barnegat Bay with Manasquan River. About $50,000 available. J. C. Payne, ch. engr. Noted June 14.

N. C., Wilmington—Drainage—Until June 25 by W. E. Price, chn. bd. drainage comrs., for 9-mi. drainage ditches in D. D. No. 3.

Mich., Sturgis—(Official) — Dredging — Until June 28 by Bd. Pub. Wks.; advertised in this issue.

Ill., Newton—Drainage—Until June 30 by Comrs. North Fork D. D., c/o Fithian & Kaserman. E. F. Mail, engr.

Ill., Savannah—(Official) — Drainage — Until July 6 by F. J. Stransky, atty., Savannah & York D. D., furnishing all material, machinery and labor for pump house and appurtenances, pumping machinery, electrical apparatus and auxiliaries; also alternative bids on an oil engine driven or steam driven plant. E. T. Perkins, 1210 1st Natl. Bank Bldg., Chicago, engr.

Ill., Tuscola—Drainage—Until June 30 by Comrs. D. D. No. 8, including about 8640-ft. tile various sizes. W. E. Price, Court House, engr.

Ia., Glenwood—(Official)—Ditch—Until July 18 by R. E. Humphrey, co. aud., for Silver Creek Ditch No. 1; advertised in this issue.

Ia., Grundy Center—Drainage—Until July 2 by Rd. Supervs., for D. D. No. 2, requiring 8500-ft. 8-in. to 15-in. tile. Former bids rejected. Noted May 24.

Minn., Redwood Falls—(Official)—Ditch—Until June 29 by L. P. Larson, co. aud., for Ditch No. 38, about 155,120-cu.yd. excavation. About $18,614. Noted May 31.

Minn., St. Cloud—Excavation—Until July 20 by N. Thomey, co. aud., for County Ditch No. 41, requiring 7764 cu.yd. excavation and furnishing and laying 8850-ft. of 12-in. tile; 1 24-in. drain head, and 1 10-ft. 16-in. terminal box.

Cal., Salinas City—Reclamation—Until June 28 by Bd. Trustees of Reclamation Dist. No. 1665. L. G. Hare, Salinas City Bank Bldg., ch. engr.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

Mass., Boston — Dredging — Comn. on Waterways and Public Land, State House, received bids, June 14, dredging 17,000 cu.yd. material in Glouster Harbor, from Gerrish Dredging Co., 101 Tremont St., 34c. per cu.yd.; Boston Dredging & Contr. Co., 40 Central St., 37c.; Bay State Dredging & Contr. Co., 247 Atlantic Ave., 38c.

★**Fla., Tallahassee**—Canals—Bd. Comrs. Everglades D. D. let contract Dania cut-off canal to Magathlin & Clark, Miami; Miami, South and New River canals to Bowers Southern Dredging Co., Galveston. About $1,000,000 available. Noted May 24.

★**Ind., Peru**—Ditch—County let contract Phillip Miller Ditch, requiring 3300-ft. tile, to C. Weis, Peru. Noted May 17.

★**Ind., Rochester**—(Official)—Ditch — B. Hay, constr. comr., let contract William Johnson Ditch to A. C. Davission, Rochester, $86,475. Noted June 7.

★**Ill., Rushville**—Ditch and Levee—Comrs. Kelly Lake Drainage and Levee Dist. let contract to M. J. O'Meara & Sons, Collom.

★**Ill., Savannah**—(Official)—Drainage—Savannah and York D. D. let contract to H. P. Johnson, Sterling. About $19,000. Noted May 24.

★**Ia., Mason City**—Drainage—County let contract D. D. No. 44, tile, to Cement Products Co., Spencer, labor to O. Jensen, Clear Lake. Noted May 31.

★**Minn., Ada**—Ditch—County let contract County Ditch No. 42 to Strom & Degerness, Ada, including 94,353-cu.yd. excavation. Noted May 31.

★**Minn., Long Prairie**—Ditch—See "Structural Steel."

★**Neb., Omaha**—Dredging—City let contract dredging Indian Creek to E. A. Wickham, Omaha, $25,000.

★**S. D., Madison**—(Official) — Ditch — Comrs. Lake and Moody Cos. let contract open work to Northern Minnesota Drainage Co., Litchfield, Minn. Noted May 17.

★**S. D., Woonsocket**—Drainage—Sanborn Co. D. D. No. 28 let contract 5.4 mi. tile drain to T. Larsen, Callender, Ia., D. D. No. 30 to Myrmo Bros., Sioux Falls.

★**Wash., Enumclaw**—Drainage—Comrs. D.D. No. 6, New York Blk. Seattle, received low bids, draining 2000-acres land near Enumclaw, from D. A. Foley & Co., Aitken, Minn., (Seattle office, Hotel Butler); Tweedin & Mills, Tacoma, $42,531; R. J. Elliott, Seattle, $41,157.

INDUSTRIAL WORKS

Proposed Work

Mass., Malden—Fitz, Dana & Co., 110 North St., Boston, plans warehouse at Commercial and Medford Sts. About $100,000.

N. Y., Buffalo—McDougall Paint Co., 1317 Elk St., had plans prepared 3-story addition, Water, Evans and North Sts. S. McDouglas, pres.

N. Y., Jamestown—Cleveland Worsted Mills, 5932 Bway., S. E., had plans prepared for factory and dye house. About $500,000.

N. Y., Long Island City—L. Cohen, 212 5th Ave., New York City, had plans prepared for 3-story, 80 x 160-ft. brick factory, William St. About $55,000.

N. Y., Long Island City—Huddleston & Mash Mahogany Co., 33 West 42nd St., New York City, having plans prepared by E. Hahn, Queens Plaza Court Bldg., for 3-story, 100 x 100-ft. brick storage and office building.

N. Y., Port Richmond—Staten Island Shipbuilding Co., 1 Bway., New York City, plans 1-story addition to shop and 1-story brick foundry here to cost $40,000 and $25,000 respectively.

N. J., Camden—See "Reinforced Concrete."

N. J., Harrison—Crucible Steel Co. of America, South 4th St., having plans prepared by W. H. Taylor, archt., 1-story, 200 x 400-ft., brick and steel forge building, South 4th St. and Pennsylvania R.R.

N. J., Kingsland—(Rutherford P. O.)—Bridgeman Smith Co., 487 Kent Ave., Brooklyn, N. Y., having plans prepared for paper box factory here. About $250,000.

N. J., Newark—Universal Smelting & Refining Co. plans 110 x 450-ft. brick and steel factory, 154 Charles St. About $154,000.

Pa., Hershey—See "Reinforced Concrete."

Pa., Palmerton—New Jersey Zinc Co., 55 Wall St., New York City, retained Donn & Deming, archts., 800 17th St., Wash., D. C., to prepare plans 3-story laboratory. About $200,000.

Pa., Phila.—J. Daly, Jr., Finance Bldg., plans 3-story, 74 x 120-ft. garage, Rosewood St. About $80,000.

Pa., Phila.—Edgewater Finishing Co., Nicetown Lane and Frankford Ave., plans 4-story, 100 x 157-ft. addition.

Pa., Phila.—Pearce Arrow Tire & Rubber Mfg. Co., 406 East Rittenhouse St., Germantown, had plans prepared by J. O. Hunt, 114 Montgomery St., Trenton, N. J., for factory. About $150,000.

Pa., Pittsburgh—Crucible Steel Co., Oliver Bldg., plans new mill at its Lawrenceville Works. About $125,000.

Pa., Reading—Reading Steel Castings Co., Tulpehockin St. and Lehigh Valley R.R., plans 1-story, 40 x 150-ft. addition to cleaning mill. About $100,000. W. H. Dechant & Son, archts., 520 Court St., soon receives bids.

Pa., Steelton—See "Reinforced Concrete."

N. C., Shelby—Cade Mfg. Co. increased its capital stock from $50,000 to $1,500,000, and plans factory to manufacture Cade compotype and typesetting machines.

Ga., Savannah—Natl. Shipbuilding & Drydock Co., recently incorporated with $300,000 capital stock, plans plant.

O., Cincinnati—Laidlow Works of Worthington Pump & Machinery Co., 1504 1st Natl. Bank Bldg., plans, 6-story, 60 x 180-ft. addition, Elmwood Pl. and Carthage Ave. About $100,000. B. Baldwin, archt., 72 Perin Bldg., 6th and Race Sts., soon receives bids. Noted May 17.

O., Dayton—Rike-Kumler Co., 2nd and Main Sts., plans 5-story warehouse, 3rd and Madison Sts. About $96,800.

Ind., Bloomington—A. Beck, Ada., Okla., plans cement plant here. About $200,000.

Ind., Elkhart—Lampson Motor Truck & Tractor Co., 141 West Jackson Blvd., Chicago, plans large factory.

Ind., Indianapolis—Nordyke-Marmon Co., Kentucky Ave. and Morris St., retained Zettel & Rapp, archts., 31 East 5th St., Cincinnati, to prepare plans 1-story, 200 x 300-ft. factory.

Mich., Detroit—Briggs Mfg. Co., Leuschner Ave., increased its capital stock from $50,000 to $750,000, and plans addition.

Wis., Madison—Jacobsen & Austin Auto Co., 207 East Washington Ave., retained J. R. Law, archt., to prepare plans 4-story, 83 x 113-ft. garage and repair shop. About $50,000.

Wis., Milwaukee—See "Reinforced Concrete."

Wis., Sheboygan—Arndt Bros. having plans prepared by Juul & Sixta, archts., Imigrants Blk., for 4- and 5-story, 50 x 75-ft. mill, 60 x 125-ft. warehouse and 50 x 100-ft. elevator., all brick and rein.-con. About $50,000. Soon receives bids.

Ia., Cedar Rapids—Quaker Oats Co. plans to spend $1,000,000 for improving its plant and installing new machinery.

Kan., Wichita—Kansas City Gas & Electric Co., 233-239 South Main St., will erect 2 55,000-gal. oil tanks. About $75,000. H. P. Wright, pres.

Mo., St. Louis—Dorris Motor Car Co., 4100 Laclede St., reorganized and increased its capital stock from $300,000 to $1,000,000, and will construct additions. A. C. Schmidt, secy.

Ark., Ft. Smith—S. P. Harding and associates, plan glass plant. About $250,000.

Ark., Ft. Smith—Model Window Glass Co. plans brick and mill factory. About $75,000. C. P. Zenor, genl. mgr.

Tex., Beaumont—Deutzer Furniture Co., 206-216 Crockett St., plans 4-story, brick and concrete plant. About $50,000.

Okla., Ada—Oklahoma Power & Transmission Co. plans hydro-electric plants at Ada and Shawnee to develop 10,000-kw. About $500,000.

Wash., Cheney—Martin Grain & Milling Co. plans brick and concrete flour mill, 500-bbl. capacity. About $75,000.

Wash., Seattle—Libby, McNeil & Libby Co., 227 Jackson St., plans canning plant and dock on Lake Union, foot of Roanoke St. About $60,000.

Wash., Spokane—Union Match Co., West Duluth, plans 2-story, 60 x 120-ft. box factory, Sprague Ave., near city limits. About $60,000.

Ore., Independence—Utah-Idaho Sugar Co., Vermont Bldg., Salt Lake City, Utah, plans factory here.

BIDS DESIRED

N. Y., Dunkirk—(Official)—Until June 29 by State Conservation Comn., 156 State St., Albany, for fish hatchery; advertised in this issue.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Me., North Vassalboro**—American Wool Co., Natl. Shawmut Bank Bldg., Boston, let contract 5-story, 68 x 247-ft. addition to E. W. Pitman, Bay State Bldg., Lawrence, Mass.

★**Vt., Highgate**—Village of Swanton let contract power plant to H. P. Cummings Con. Co., Woodsville, N. H., $75,000.

★**Mass., Lawrence**—H. P. Hood & Sons Co., 494 Rutherford Ave., Charlestown Dist., Boston, let contract creamery to J. W. Bishop Co., 683 Atlantic Ave., Boston, $50,000.

★**Mass., New Bedford**—See "Reinforced Concrete."

★**R. I., Woonsocket**—Woonsocket Spinning Co. let contract 1-story, 128 x 210-ft. brick mill, with separate 22 x 32-ft. boiler house to W. Aubin, Diamond Hill Rd.

★**Conn., Naugatuck**—Rubber Regenerating Co., Elm St., let contract warehouse to J. N. Bishop Co., 109 Foster St., Worcester, Mass., $75,000.

★**N. Y., Brooklyn**—American Machine & Fdry. Co., 56th St. and 2nd Ave., let contract 4-story, 120 x 150-ft. factory to H. D. Best & Co., 52 Vanderbilt Ave., New York City.

Industrial Work (Continued)

★**N. Y., Brooklyn**—See "Reinforced Concrete."

★**N. Y., Long Island City**—See "Reinforced Concrete."

★**N. Y., New York**—Manhattan Brass Co., 33 East 26th St., let contract 7-story plant to C. A. Cowen Co., 30 East 42nd St.

★**N. Y., Rochester**—T. H. Symington Co., Lincoln Park, let contract addition, Atlantic Ave., to A. Fredericks & Son Co., Mill and Andrew Sts., $50,000.

★**N. Y., Trenton Falls**—Utica Gas & Electric Co., Genesee St., Utica, let contract addition to hydro-electric power plant to Structural Concrete Co., Dayton, O.

★**N. J., Hoboken**—Delaware, Lackawanna & Western R.R. let contract engine terminal at 16th and Henderson Sts., including 1-story brick engine house, boiler house, shop, concrete turntable pit and retaining wall, to R. D. Richardson Constr. Co., Connell Bldg., Scranton, Pa., $50,000.

★**N. J., Newark**—See "Structural Steel."

★**Ky., Maysville**—R. J. Reynolds Tobacco Co. let contract plant to E. F. Hettrick Engr. Co., Empire Bldg., Birmingham, Ala. $100,000.

★**Ill., Chicago**—Turner Mfg. Co., 1444 South Sangamon St., let contract 3-story plant to J. W. Snyder Co., 122 South Michigan Ave. Noted May 31.

★**Wis., Green Bay**—Alart & McGuire, let contract 1-, 2- and 3-story, 100 x 300-ft., brick and rein.-con. pickling and cold storage plant to Fabry Constr. Co., Green Bay.

★**S. D., Frankfort**—Frankfort Mill & Elevator Co. let contract large elevator to H. M. Hickok & Sons, 818 Flour Exchange, Minneapolis.

★**Wash., Yakima**—Appleton Milling Co., 606 Palace Bldg., let contract flour mill to Rabehl Bldg. Co., 2952 Nicollet Ave., all of Minneapolis. About $65,000.

BUILDINGS

Proposed Work

N. H., Durham—Commons Building—State Agricultural College will receive bids in July, 2- and 3-story. About $100,000. E. T. Huddleston, c/o college, archt. Noted May 3.

Mass., Fall River—Theater and Store—Lyric Theater, 1336 Pleasant St., plans. About $100,000. L. G. Destremps & Son, archts., 58 Bedford St., soon receives bids.

R. I., Pawtucket—Club—Pawtucket Lodge of Elks purchased site, Montgomery and Exchange Sts., and will build. About $75,000.

Conn., Darien—School—Bd. Educ. rejected bids, 1-story, 17 x 60-ft. About $50,000. Sunderland & Watson, Library Ave., archts. Noted May 24.

Conn., Norwalk—Grammer School—Bd. Educ. rejected bids, 2-story, 60 x 112-ft. About $50,000. Sunderland & Watson, Library Ave., archts. Noted June 7.

Conn., Stamford—School — School Bd. plans 2-story. About $85,000. Emmons & Abbott, archts., 1 Bank St., soon receives bids.

N. Y., Bronxville—Hospital—Lawrence Hospital, c/o D. B. Lawrence, Pondfield Rd., having plans prepared by McKim, Mead & White, archts., 101 Park Ave., New York City, 3-story, 35 x 180-ft., brick and stone addition, with 35 x 75-ft. wing.

N. Y., Brooklyn—Parish House—Lafayette Ave. Presbyterian Congregation having plans prepared by Clark & Arms, archts., 21 West 45th St., New York City, 4-story, 40 x 90-ft., South Oxford St. About $85,000.

N. Y., Hudson Falls—High School—Bd. Educ. having plans prepared by Waite & Copeland, archts., 46 Corn Hill St., Boston, on Main St.

N. Y., Niagara Falls — Tuberculosis Houses—County had plans prepared by C. Phelps, archt., 523 Gluck Bldg., 2-story, 92 x 120-ft., at poor house farm. About $288,000.

N. Y., Poughkeepsie—Store and Office—Morgan House Corp., 45 Market St., having plans prepared by W. J. Beardsley, archt., 49 Market St., 3-story, 60 x 60-ft., Main St. About $100,000.

N. Y., Richmond Hill—Church—Richmond Hill Baptist Congregation having plans prepared by Helmle & Corbett, archts., 190 Montague St., Brooklyn, 1-story, brick, Stoothoff Ave. and Fulton St. About $60,000.

N. Y., Yonkers—School—Bd. Educ. had plans prepared by G. H. Chamberlin, archt., 18 South Bway., Yonkers, 3-story, 80 x 170-ft., on Van Cortlandt Park Ave. About $50,000.

N. J., Elizabeth—Hospital — Elizabeth General Hospital plans. About $500,000.

N. J., Trenton—Bank—Merchants Trust Co., 203 South Broad St., having plans prepared by Kleeman & Fowler, archts., 1st Natl. Bank Bldg., 1-story, 35 x 90-ft. About $100,000.

Pa., Enola—High School—Bd. Educ. plans, 2-story, 80 x 146-ft. About $100,000. C. H. Lloyd, archt., Telegraph Bldg., 216 Locust St., Harrisburg, soon receives bids. Noted May 3.

Pa., Scranton—3rd Natl. Bank, 118 Wyoming Ave., plans 1- and 3-story, 65 x 80-ft. About $80,000. E. Langley, archt., Scranton Life Bldg., soon receives bids. Noted June 7.

Del., Newark—Dormitory—Delaware College plans 4-story, 39 x 48-ft. with 2 wings, 2-story, 30 x 33-ft. and 2 wings, 3-story, 33 x 87-ft. Day & Klauder, archts., 925 Chestnut St., Phila., soon receives bids. Noted May 31.

Del., Wilmington—Bank—Security Trust Co., 6th and Market Sts., having plans prepared by E. C. May, archt., Du Pont Bldg., 2-story, 50 x 52-ft., brick and marble addition.

Md., Baltimore—See "Reinforced Concrete."

Md., Hagerstown—Y. M. C. A. had plans prepared for building. About $150,000. J. C. Byron, Negley Bldg., chn. bldg. com. Noted May 10.

Va., Salem—Y. M. C. A. plans building. About $60,000.

W. Va., Beckley—High School—M. R. Jennings, secy. bd. educ., soon receives new bids, 3-story, 99 x 134-ft. About $55,000. W. H. St. Clair, Fleetwood Hotel, archt.

W. Va., Grantsville—High and Grade School—Bd. Educ. had plans prepared by S. W. Ford, archt., Union Bank Bldg., Clarksburg. About $90,000.

W. Va., Parkersburg—School—Bd. Educ. having plans prepared by F. L. Packard, archt., New Hayden Bldg., Columbus, O. About $175,000.

S. C., Greenville—Hospital—Bd. Governors, City Hospital, having plans prepared by E. C. Wachendorff, archt., Empire Bldg., Atlanta, Ga. About $60,000.

Ga., Atlanta—Hotel—H. Richardson, 66½ North Forsyth St., plans 9-story, concrete and tile, Ivy and Ellis Sts. About $200,000. H. K. Chapman, archt., 134 East Ave., preparing plans.

Fla., Miami—Schools—City voted $150,000 bonds to build additions to Beuna Vista, Riverside, and Highland Park Ward Schools and to erect school to take place of 2nd St. building.

Fla., St. Petersburg—Grade School—Bd. Educ. had plans prepared by W. B. Ittner, archt., 911 Locust St., St. Louis, Mo. About $100,000.

Fla., Tarpon Springs—Cathedral—Greek Congregation plans. About $50,000.

Ala., Birminghan—Hospital—Tennessee Coal, Iron & R.R. Co. plans. About $425,000. G. W. Drach, archt., Union Trust Bldg., Cincinnati, preparing plans.

Tenn., Cumberland—University—Lincoln Memorial University of Cumberland Gap, c/o H. C. Hubbell, 716 1st Natl. Bank Bldg., Cincinnati, plans, 2- or 3-story. About $60,000. A. L. Fechheimer, archt., 1534 Union Trust Bldg., Cincinnati, soon receives bids.

O., Alliance—(Official)—Club and Store—Fraternal Order of Eagles, 647 South Liberty Ave., will construct, 4-story, 40 x 110-ft., on Main St. About $75,000. W. W. Matchett, archt., Main St., will receive bids in December. Noted June 7.

O., Carey—Church—Shrine of Our Lady of Consolation Congregation plans 1½-story, 125 x 150-ft. About $85,000. J. J. Gander, archt., 61 State St., Albany, soon receives bids. Noted May 24.

O., Columbus—Hotel and Store—T. M. Hardesty, Southern Hotel, having plans prepared by F. Elliott, archt., Chamber of Commerce Bldg., 58 x 72-ft. About $250,000.

O., Oxford—Church—St. Marys Congregation having plans prepared by H. McClorey, Gerke Bldg., Cincinnati, 2-story. T. Bailey, pastor.

O., Plymouth—(Official)—High and Grade School—City defeated bonds to build high and grade school. Althaus & Jones, Market Bldg., Mansfield, archts. Noted June 7.

O., Springfield—Office—Brier Hill Steel Co., Stambaugh Bldg., receives bids about June 15, 4-story, West Federal St. About $250,000. W. A. Thomas, pres. J. L. Decker, Stambaugh Bldg., archt.

O., Youngstown—Store and Office—R. O. King, King Bldg., receives bids about June 15, 6-story, 50 x 90-ft., brick and rein.-con., Fountain and High Sts. About $70,000. R. C. Gotwald, 52 Gotwald Bldg., archt.

Ind., Anderson—Lodge—B. P. O. Elks plans, 2-story, 70 x 100-ft. About $100,000. C. D. M. Lane, archt., 301 Robinson Bldg., Rock Island, soon receives bids.

Ind., Elkhart—Bank—1st Natl. Bank had plans prepared by H. R. Wilson & Co., archts., 2-story, 60 x 150-ft. Noted Apr. 19.

Ind., Greencastle—School—Bd. educ. retained H. L. Bas, archt., Hume-Mansur Bldg., Indianapolis, to prepare plans. About $100,000.

Ind., South Bend—Church and Parsonage—Trinity Congregation, 718 East Colfax Ave., soon lets contract, 1-story, 65 x 118-ft. About $50,000. J. S. Burns, pastor. S. R. Badgeket, Wise Bldg., Cleveland, archt.

Mich., Detroit—Bank and Hotel—Washington Hotel Co. having plans prepared by Holabird & Roche, archts., 104 South Michigan Ave., Chicago, 20-story. Pres., F. E. Elsworth, Henry Clay Hotel.

Mich., Detroit—Club — Tippecanoe Athletic Club, c/o S. A. Erwin, 816 Free Press Bldg., retained Wells & Balle, archts., 1602 Ford Bldg., to prepare plans, 12-story, 70 x 130-ft. About $1,500,000.

Mich., Flint—School—Bd. educ. had plans prepared by Malcomson & Higginbotham, archts., Moffat Bldg., Detroit, 2-story, 72 x 179-ft. About $110,000. Noted Apr. 5.

Mich., Lansing—Hotel—Hotel Wentworth, 201 East Michigan Ave., had plans prepared by J. M. Churchill, archt., Oakland, Bldg., 4-story, 32 x 125-ft. addition with 2 wings, 36 x 107-ft.

Ill., Chicago—Hotel—Kusel & Harris, 30 North La Salle St., soon receives bids, 4-story, 100 x 256-ft. About $225,000. R. C. Harris, 79 West Monroe St., archt.

Ill., Chicago Heights—Hotel and Store—C. H. Thomas, 69 East 14th St., plans, 4-story, 70 x 122-ft., to be called "Hotel Thomas." H. H. Richards, archt., 327 South La Salle St., Chicago, soon receives bids.

Ill., East Moline— Y. M. C. A. plans, 4-story, 82½x 101. About $100,000. W. E. Mack, Ross Bldg., secy. Whitsitt & Schulzek, Peoples Bank Bldg., Moline, archts.

Ill., Highland Park—Lodge and Store—A. O. Fay Lodge No. 676, A. F. & A. M., plans, 2-story, 50 x 119-ft. About $50,000. Holmes & Flynn, archts, 8 South Dearborn St., Chicago, soon receives bids.

Ill., Monmouth—Y. M. C. A. having plans prepared by C. D. McLane, archt., Robinson Bldg., Rock Island, for 3-story, 75 x 140-ft. building. About $75,000. R. C. Smedley, 203 South 1st St., secy. Noted Apr. 26.

Ill., Peoria—Hotel—Jefferson Hotel Co., Jefferson and Liberty Sts., had plans prepared by Hewitt & Emerson, archts., 321 Main St., for 5-story, 53 x 68-ft. annex. About $75,000.

Ill., Springfield—Temple—Illinois Federation of Labor plans. About $200,000. J. H. Walker, pres.

Wis., Dousman—Home—Wisconsin Masonic Home having plans prepared by A. D. Kock, archt., Wells Bldg., Milwaukee, 2-story, 250 ft. long and 3 wings, 40 x 100 ft. About $125,000. A. E. Matheson, Janesville, chn.

Wis., Racine—Theatre, etc.—Tullgren-Brachmann Syndicate, Milwaukee, soon receives bids, 3-story, 100 x 240-ft. theatre, office and business block, Monument Sq. About $125,000. M. Tullgren & Son, archts., 1236 1st Natl. Bank Bldg., Milwaukee, prepared plans.

Wis., Racine—Armory and Auditorium—City plans 2-story, 112 x 245-ft. brick, stone, steel trussed. About $100,000. A. A. Guilbert, archt., soon receives bids. Noted Apr. 19.

Wis., Stevens Point—High School—Bd. Educ. having plans prepared by R. A. Messmer & Bro., archts., Majestic Bldg., Milwaukee, 3-story, 76 x 110-ft. addition. About $75,000. H. C. Welty, secy.

Wis., West Allis—High School — Bd. Educ. had plans prepared by R. A. Messmer & Bros., archts., Majestic Bldg., Milwaukee. About $200,000.

Is., Bronson—School—Bd. Educ. retained Beuttler & Arnold, archts., 609 Security Bldg., Sioux City, to prepare plans. About $50,000. Noted May 31.

Buildings (Continued)

Ia., Columbus Junction — High School—Bd. Educ. voted $90,000 bonds to build high school. A. Mulburn, secy.

Ia., Mason City—School—Bd. Educ. had plans prepared by J. H. Felt & Co., archts., 800 Grand Ave., Temple, Kansas City, Mo. About $100,000. R. L. James, secy. Noted May 24.

Ia., Mingo—School—Bd. Educ. Consolidated Dist. will hold election June 30 to vote on $60,000 bonds to build school. Noted May 31.

Ia., Sioux City—Church—1st Baptist Congregation having plans prepared by Beuttler & Arnold, archts., 609-10 Security Bldg., 1-story. About $75,000.

Minn., Chisholm—Auditorium—B. E. Culver, recdr., receives bids in July, 1- and 2-story, 87 x 125-ft., 3rd Ave. and Chestnut St. About $64,000. O. A. Puck, Torrey Bldg., Duluth, archt.

Minn., Duluth—Schools—City will hold election July 21 to vote on $250,000 bonds to build schools. C. A. Bronson, clk bd. educ.

Minn., Pipestone — High School — Bd. Educ. having plans prepared by H. L. Lockhart, archt., 391 Endicott Bldg., 2-story, 75 x 96-ft. About $250,000. Noted May 3.

Minn., Rochester — School — City voted $128,000 bonds to build school. E. Bratager, clk. Noted May 17.

Kan., Concordia—High and Grade Schools—City voted $75,000 bonds to build high school and 2 grade schools. W. E. Hulse & Co., Hutchinson, archts.

Kan., Scott City—Court House—Co. plans election, June 26 to vote on $50,000 bonds to build.

Kan., Smith Center—Court House—County plans. About $85,000. T. W. Williamson & Co., 416 Central Natl. Bank Bldg., Topeka, archts.

Kan., Wichita—High School—Bd. Educ. plans, 2-story, brick and stone. About $115,000. L. Schmidt, 121 North Market St., archt.

S. D., Sioux Falls—Bank and Office—Sioux Falls Natl. Bank, rejected bids; project suspended indefinitely. About $250,000. Weary & Alford Co., 1907 South Michigan Ave., Chicago., archts. Noted Apr. 19.

N. D., Minot—City Hall—City election June 25 to vote on $185,000 bonds to build school and new reservoir, and improve streets.

Wyo., Casper—City Hall—City voted $55,000 bonds to build city hall; $75,000 to extend and improve water and light plants; $140,000 to install storm sewers.

Mont., Livingston—High School—City voted $68,000 bonds to build high school. Noted May 24.

Mo., Fulton—Chapel—Westminster College, c/o E. E. Reed, pres., soon receives bids, brick. About $55,000. Holmes & Flynn, 8 South Dearborn St., Chicago, archts.

Mo., Kansas City—Schools—Bd. Educ. voted $2,000,000 bonds to build schools. J. B. Jackson, Jr., 9th and Locust Sts., secy. Noted May 17.

Ark., Little Rock—Theatre—Royal Theatre having plans prepared by T. M. Sanders, archt., 39 Urquhart Bldg., rebuilding. About $150,000.

Tex., Breckenridge—School—City voted bonds to build school.

Okla., Muskogee—Y. M. C. A. having plans prepared 3-story building. About $50,000. Contracts will soon be let.

Okla., Oklahoma—Liberal Arts Building—City and Oklahoma State Exposition Co. plans, 1-story, 200 x 300-ft. brick and rein.-con. About $100,000. Layton & Smith, 701 Majestic Bldg., archts.

Okla., Sapulpa—(Official)—High School—J. W. Youngman, secy. bd. educ. will receive bids about July 1, 3-story, 115 x 170-ft. About $175,000. C. A. Popkin, archt. Noted May 17.

Okla., Tulsa—Shrine Temple — Akdar Temple having plans prepared by Pucky & Jenkins, archts., 6 North Michigan Ave., Chicago, 3-story. About $250,000.

Colo., Denver—Schools—Bd. Educ. plans to improve and repair schools during summer. About $132,000.

Cal., Huntington Park—Schools — City voted $78,000 bonds to construct schools.

Cal., Long Beach—Schools—City will hold election July 10 to vote on $100,000 bonds to build grammer school and $50,000 to build high school.

Cal., Manteca—Bank—See "Reinforced Concrete."

BIDS DESIRED

R. I., Woonsocket—School—Until June 26 by J. J. Gearron, chn. bldg. com., brick, 5th Ave. About $55,000. Noted June 7.

N. Y., New York—High School—Until June 27 by C. B. J. Snyder, supt. schools, Park Ave. and 59th St., for Evander Childs High School, East 184th St. and Field Pl., between Creston and Morris Aves., Bronx Boro.

N. Y., North Tarrytown—Hospital—Until June 26 by H. B. Herts, archt., 507 5th Ave., New York City, for 3-story, 150 x 350-ft., brick and stone, for Isaac L. Rice Memorial Hospital for Convalescents, c/o I. L. Rice, 61 Bway., New York City. About $400,000. Noted May 24.

Pa., Phila.—(Official)—Station Buildings—Until July 10 by W. S. Twining, dir. dept. city transit, removal and erection of buildings; advertised in this issue.

O., Mt. Vernon—Infirmary—Until June 26 by T. E. Davey, Oak and 9th Sts., Columbus, 2-story, at Ohio State Sanitarium, Mt. Vernon. Richards, McCarty & Bulford, Hartman Bldg., Columbus, archts. Noted June 7.

O., Portsmouth—School—Until July 2 by J. I. Husdon, pres. bd. educ., 810 Gallia St. Ritter & Bates, 1st Natl. Bank Bldg., archts.

O., Youngstown—School—Until June 29 by Clk. Bd. Educ. for addition to Garfield School. P. Boucherie, Stambaugh Bldg., archt.

Ind., Decatur—(Official)—High School—Until June 29 by Bd. Educ., 2-story, 70 x 160-ft. About $110,000. O. Hoffman, Studebaker Bldg., archt. Noted June 7.

Ind., Terre Haute—Theater, Store and Office—Until June 25 by J. A. Brentlinger, mgr., Bankers' and Brokers' Theatrical Assn., 1- and 2-story, 550 x 130-ft. About $85,000. A. Proskauer, 105 North St., Chicago, archt.

Kan., Ft. Scott—High School—Until June 25 by Bd. Educ. W. T. Schmitt, 1634 West 10th St., Oklahoma, archt.

Neb., Lincoln—University—Until June 25 by Bd. Regents of Nebraska University, 3-story, brick, stone, terra cotta and concrete. About $125,000. J. S. Dales, Sta. A, secy. Coolidge & Hodgdon, Corn Exchange Bank Bldg., Chicago, archts. Noted May 10.

Neb., Sterling—School—Until June 26 by Bd. Educ. Berlinghof & Davis, 414 Security Mutual Life Bldg., Lincoln, archts.

S. D., Huron—High School—Until July 10 by W. Habel, clk. independent school dist. G. C. Miller, Fullinwider & Dowling, 6 North Michigan Ave., Chicago, archts. Noted Apr. 19.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Mass., Fall River**—Store and Office—N. Yamins, 78 Bedford St., let contract 3-story, 82 x 100-ft., brick, to J. Crowe, 486 2nd St.

★**Mass., Medway**—Armory—State let contract to E. A. Peabody & Son Co., Bay State Bldg., Lawrence, $50,000.

★**N. Y., Manhasset, L. I.**—Hotel—Manhasset Bay Corp., 52 Vanderbilt Ave., New York City, let contract to Columbus Circle Constr. Co., 15 Columbus Circle, New York City, $600,000.

★**N. Y., New York**—Club—University Club let contract, 6-8 West 55th St., to M. Widlitz & Son., 30 East 42nd St.

★**N. Y., New York**—Hall, Store and Studio—Alliance Realty Co., 115 Bway., let contract to A. L. Mordecai & Son, 30 East 42nd St., $50,000.

★**N. J., Princeton** — Station — Pennsylvania R.R. let contract to Mathews Constr. Co. About $75,000. Noted May 24.

★**Pa., Conshohocton** — Club — Pennsylvania Club c/o J. Smith, let contract, 3-story, to J. B. Groff, Norristown.

★**Pa., Doylestown**—School—Natl. Farm School, 1001 Chestnut St., Phila., let contract addition to Specht & Sperry, 1215 Filbert St., Phila., $75,000. Noted June 14.

★**Pa., Erie**—High School—Bd. Educ. let contract to W. M. Sutherland, B. & O. Co., Syndicate Trust Bldg., St. Louis, Mo., $600,000.

★**Va., Richmond** — Hospital — Memorial Hospital, c/o Virginia Medical College, 11th and East Broad St., let contract addition to A. M. Walkup & Co., 746 17th St., $50,000.

★**W. Va., Morgantown**—Dormitory—University of West Virginia let contract, 3-story, 45 x 220-ft., brick, stone and terra cotta, to R. R. Kitchen, foot of Lafayette Ave., Wheeling.

★**Ind., Sheridan**—Bank and Office—Farmers Natl. Bank let contract to F. M. Hinds & Son, Frankfort.

★**Ind., Vincennes**—Bank and Office—German Natl. Bank let contract, brick and stone, to A. C. Kausler & Sons, Evansville. About $200,000. Noted May 3.

★**Ill., Chicago**—Hotel—Hotel Breakers let contract, 55th and Everett Sts., to M. Rauen, 111 West Washington St., $650,000.

★**Wis., Rice Lake**—High School—Bd. Educ. let contract to W. E. Madox, Mondovi, $50,000.

★**Ia., Cedar Rapids**—Y. M. C. A. let contract building to J. F. Leefers & Co., American Trust Bldg., $165,000.

★**Ia., Centerville**—(Official)—High School—Bd. Educ. let contract to B. S. Staley, Centerville, $116,000. Noted May 24.

★**Ia., Mason City**—Y. W. C. A. let contract building to B. L. Stratton, $60,000.

★**Kan., Ness City**—Court House—County let contract to Cuthbert & Son, Topeka, $68,800. Noted May 17.

★**Neb., York**—School—Bd. Educ. let contract 3 schools to Olson & Johnson, 508 Montana Bldg., Missoula, Mont., $142,000.

★**N. D., Fargo**—(Official)—Grade School—Bd. Educ. let contract to S. Wilson, Fargo, $69,997. Noted May 24.

★**N. D., Mayville**—Dormitory—Bd. Regents, State Normal School, let contract to T. Ostbye, Fargo, $75,000.

★**N. D., Williston**—St. Joseph's Congregation let contract to Donohue-Selover Contr. Co., 730 Globe Bldg., St. Paul, $50,000.

★**Mo., Mexico**—Academy—Mexico Military Academy let contract to Ray & Son, Louisiana, Mo., $50,000.

★**Mo., St. Louis**—Bank—American Trust Co., Bway. and Locust St., let contract to W. W. Sutherland Contr. Co., Syndicate Trust Bldg., $250,000, on percentage basis. Noted June 14.

★**Okla., Oklahoma**—Y. M. C. A. let contract building to Gross Constr. Co., 132½ West 2nd St., $200,000. Noted Apr. 5.

★**Ariz., Tucson**—See "Reinforced Concrete."

★**Ont., Trenton**—High School—School Bd. let contract to Schultz Bros., Brantford, $50,000. Noted May 10.

FEDERAL GOVERNMENT WORK

Proposed Work

Mass., Southbridge—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., rejected bids. Noted June 7.

Pa., Phila.—Caisson Gates—Bureau Yards and Docks, Navy Dept., Wash., received no bids for dry docks, at Phila. and Norfolk, Va., Navy Yards. Noted May 31.

Va., Norfolk—Caisson Gates—See "Phila., Pa."

Ala., Jasper—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., rejected bids. Supplementary proposals will soon be asked from original bidders. Noted June 7.

N. M., Raton—Post Office—J. A. Wetmore, superv. archt., treas. dept., received no bids. Noted May 17.

BIDS DESIRED

Me., Ft. Fairfield—Post Office—Until July 20 by J. A. Wetmore, superv. archt., treas. depth., Wash.

N. Y., Buffalo—Superstructure—Until July 10, by U. S. Engr. Office, Buffalo, for constructing concrete superstructure on breakwater.

N. Y., New York—Dredging—Until July 5 by U. S. Engr. Office, Room 802, Army Bldg., 39 Whitehall St., New York City, dredging in Staten Island Sound; advertised in this issue.

Pa., Phila.—Storehouse—Until June 25 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., for advance base storehouse.

N. C., Ft. Caswell—Intercepting Sewer—Until June 28 by Constr. Quartermaster, Ft. Caswell, about 2060-ft. 8-in. universal pipe sewer.

Miss., Vicksburg—Levee Work—Until July 11 by 3rd Mississippi River Dist., P. O. Box 404, Vicksburg; advertised in this issue.

Federal Government Work (Continued)

Tenn., Gallatin—Post Office—Until June 26 by J. A. Wetmore, superv. archt., treas. dept., Wash.; advertised in this issue.

Tenn., Memphis—Elevators, etc.—Until July 2 by Mississippi River Comn., U. S. Engr. Office, Customhouse, furnishing elevators and conveyors, concrete mixers, etc.; advertised in this issue.

Tenn., Memphis—Wire Strand, etc.—Until June 30 by Mississippi River Comn., U. S. Engr. Office, Custom House, Memphis; advertised in this issue.

Mont., St. Ignatius—Laterals—Until July 18 by U. S. Rec. Ser., St. Ignatius, for laterals on Flathead Project, located from 7- to 12-mi. north from Dixon, a station on Northern Pacific Ry. Work includes 60,000-cu.yd. excavation and 100,000 sq.ft. concrete canal lining. M. Bien, act. dir.; advertised in this issue.

Mo., St. Louis—Earthwork—Until July 2 by Secy., Mississippi River Comn., 1311 International Life Bldg., St. Louis, constructing about 190,000-cu.yd. earthwork in Muscatine Island Levee Dist. Iowa.

Cal., San Francisco—Pipe Line—Until June 25 by Bureau Yards and Docks (F. R. Harris, ch), Navy Dept., Wash., for a 6-in. flexible joint submerged pipe line at Naval Training Station.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

Mass., Boston—Storehouse—Bureau Yards and Docks, Navy Dept., Wash., received bids (a) work complete, in accordance with drawings and specifications; (b) add to net price and time stated under (a) for addition of 7th story similar in all respects to 6th; (c) deduct from net price and time stated under (a) for omission of 6th story shown on drawings; (d) deduct from net price and time stated under (a) for omission of sprinkler system, including tank, piping, valves and heads; (e) deduct from net price and time stated under (a) for omission of cold water paint; (f) deduct from net price and time stated under (a) for omission of all electric wiring; (g) work complete, for an alternative design in accordance with drawings and specifications, except that details and design of rein.-con. in building shall be in accordance with standard practice and any recognized and established building code, and if award is made under this item, before final acceptance of work test of finished structure shall be made, when directed by officer in charge in which the loading shall be 1½ times specified live loads and such loads shall cause no injurious permanent deformations; (h) add to net price and time stated under (g) for addition of 7th story, similar in all respects to 6th; (i) deduct from net price and time stated under (g) for omission of 6th story shown on drawings, from Evatt Constr. Co., 161 Devonshire St., (a) $582,999, 210 days; (b) $54,699, 30 days; (c) $48,999, 21 days; (d) $21,999, 210 days; (e) $2999, 210 days; (f) $10,999, 210 days; (g) $539,999, 210 days; (h) $51,999, 30 days; (i) $45,999, 21 days; H. P. Converse & Co., 88 Broad St., (a) $606,490, 295 days; (b) $52,205, 30 days; (c) $47,473, no change in time; (d) $22,550, (e) $3000, (f) $9960, (g) $578,182, 295 days, (h) $48,523, 30 days; (i) $43,285, 295 days; G. A. Fuller Co., 131 State St., (a) $646,766, 184 days; (b) $60,000, 18 days; (c) $65,000, 10 days; (d) $26,000, no change in time; (e) $3200, no change in time; (f) $13,600, no change in time; (g) $617,225, 184 days; (h) $54,000, 18 days; (i) $57,000, 10 days. Noted June 7.

R. I., Newport—Power Plant—Bureau Yards and Docks, Navy Dept., Wash., will probably let contract to W. G. Cornell, 923 12th St., Wash., D. C. About $170,000. Noted June 14.

★N. Y., Buffalo—Steel Reinforcements—Lighthouse Inspector, Buffalo, let contract, for concrete base at Conneaut Light Station, to Milwaukee Bridge Co., Milwaukee, $7470.

N. Y., New York—Machine Shop—Bureau Yards and Docks received bids extension to machine shop at Navy Yard, from Post & McCord, 101 Park Ave., Conners Bros. Co., 64 West 88th St., Snare & Triest Co., 233 Bway., G. Baker Long, 340 Main St., Worcester, Mass., and J. MacArthur, 22 Ormond St., Brooklyn.

★N. J., Cape May—Aviation Station—Bureau Yards and Docks, Navy Dept., Wash., let contract to Cramp & Co., Denckla Bldg., Phila., $450,000.

Pa., Ft. Mifflin—(Phila. P. O.)—Mine Storage Building—Bureau Yards and Docks, Navy Dept., Wash., received low bids, at Naval Ammunition Depot, (a) work complete, but omitting all concrete piles and pile caps; (b) work complete, based on use of premolded rein.-con. piles; (c) work complete, as required in (b) but based on use of molded-in-place rein.-con. piles in lieu of premolded piles; (d) add to or deduct from net price and time for work under (a) for each interior bay added to or deducted from building; (e) add to or deduct from net price and time for work under (b) for one interior bay added to or deducted from building; (f) add to or deduct from net price and time for work under (c) for one interior bay added to or deducted from building; (g) deduct from or add to net price for work under (b) for each lin.ft. of concrete piling less than specified length or for each lin.ft. of concrete piling in place in excess of specified length; (h) deduct from or add to net price for work under (c) for each lin.ft. of concrete piling less than specified length or for each lin.ft. of concrete piling in place in excess of specified length; (i) deduct from net price for work complete under (a) by using galvanized sheet steel in lieu of copper excepting finish at eaves and gravel stops, from J. H. Miller, Miller Bldg., Baltimore, (a) $46,000, 190 days; (b) $58,000, 190 days; (c) $54,000, 190 days; (d) $4100; (e) $5100; (f) $4800; (g) $3; (h) $2; (i) $480; W. M. Linker Co., 831 Cherry St., Phila., (a) $46,300; (c) $54,100, 150 days; (d) $3520, 15 days; (f) $3965, 15 days; (h) $1.50; (i) $440; J. H. Weise, Omaha, Neb., (a) $53,758, 160 days; (c) $63,420, 180 days; (d) $4100, 10 days; (f) $4800, 10 days; (h) add $1.60 per ft. or deduct 90 per ft.; (i) $600. Noted May 31.

Pa., Phila.—Foundry—Bureau Yards and Docks, Navy Dept., Wash., received bids from Conners Bros. Co., 64 West 88th St., New York City, W. Moore & Co., 518 Commercial Trust Bldg., Post & McCord, 101 Park Ave., New York City, McClintic Marshall Co., 1421 Chestnut St., and McCluskey & Ball, 1620 Thompson St.

Pa., State College—(Post Office)—J. A. Wetmore, superv. archt., treas. dept., Wash., received only bid from W. H. Fissell & Co., 1328 Bway., New York City, limestone, $71,100; sandstone, $74,100. Noted May 17.

Wash., D. C.—Radio Buildings—Bureau Yards and Docks, Navy Dept., Wash., received bid only for buildings at high power radio station, El Cayey, P. R., from Hamilton & Chamber Co., 29 Bway., New York City, $86,683. Noted May 24.

Wash., D. C.—Radio Buildings—Bureau Yards and Docks, Navy Dept., received bids radio building at various points; (a) Quarters complete at Portland, Me., (b) same at Portsmouth, N. H.; (c) same at North Truro, Mass.; (d) same at Charleston, S. C.; (e) same at St. Augustine, Fla.; (f) for quarters and tower complete, at Jupiter, Fla.; (g) buildings and masts complete, at New Orleans, La.; (h) under this heading contractors bidding on work at St. Augustine, Fla., may submit proposals, based on building having same inside dimensions as shown on drawings for quarters and having exterior walls constructed of Coquina blocks or of brick, having cement stucco finish covered with Cowuina, from Charleston Engr. & Contr. Co., 58 Broad St., Charleston, S. C., (d) $4797, 45 days and $4950, 30 days; F. W. Cunningham & Sons, 437 Congress St., Portland, Me., (a) $7280, 90 days; J. Simmons Co., 102 Center St., New York City, (g), part, $27,500, 500 days; alternate, $24,500, 180 days; Newport Contr. & Engr. Co., Law Bldg., Newport News, Va., (g) $23,000, 150 days; alternate bid, cost plus 15%; W. D. Dresser, R. F. D. No. 6, South Portland, Me., (a) $7875; Pittsburgh-Des Moines Steel Co., 807 Curry Bldg., Pittsburgh, (f) $12,150, 150 days, and $11,750, 160 days; Simmons-Mayrant Co., Charleston, S. C., (d) $4169, 60 days; W. T. Hadlow, Baldwin Bldg., Jacksonville, Fla., (d) $3834, 75 days; (e) $898, 75 days, (f) $9281, 100 days; C. L. Dooley, 257 Adelphi St., Brooklyn, (a) $4800, (b) $4950, (c) $5200, 60 days; L. F. Favret, 211 Camp St., New Orleans, La., (g) $18,725, 90 days for building only, 30 days for masts; P. D. Hay, 29 B St., Charleston, S. C., (d) $3743, 75 days; Wolf & Ewing Constr. Co., 505 11th St., Miami, Fla., (f) $4721, frame building, 60 days, $6881 for tower; G. W. Brown, West Palm Beach, Fla., (f) $12,485, 60 days; W. S. Lackman, Jr., P. O. Box 784, West Palm Beach, Fla., (f) $9989, 75 days; Forgione & Romano Co., 465 Congress St., Portland, Me., (a) $5570; F. A. Day's Sons, 24 Pearl St., Provincetown, Mass., (c) $4490, 70 days; Sacco & Wood, 252 Market St., Portsmouth, N. H., (b) $4473, 80 days; T. M. McCarrel, 217 Rutledge St., Charleston, S. C., (d) **$3425, 70 days**. Noted May 24.

Va., Cape Henry—Building—U. S. Dept. Agriculture, Wash., received following bids 3-story building for Weather Bureau from, Baker & Brinkley, Dickinson Blvd., Norfolk, $27,000; J. Seay & Co., Petersburg, $27,800; W. T. Gregory, Norfolk, $28,600. Noted May 24.

Va., Petersburg—Cantonment Buildings—Rumored at War Dept. that Rhinehart & Dennis, Charlottesville, Va., will be awarded contract on cost plus percentage basis. Between 1000 and 2000 of these buildings in contract.

S. C., Charleston—Boilers—Inspector 6th Lighthouse Dist., Charleston, received bids furnishing 2 boilers of gunboat type for tender "Mangrove" from Almy Water Tube Boiler Co., 184 Allens Ave., Providence, R. I., $13,560; P. Delany & Co., Newburgh, $34,000.

Fla., Pensacola—Storehouse and Magazine Buildings—Bureau Yards and Docks, Navy Dept., Wash., received only bid for constructing from Wise Granite & Constr. Co., American Natl. Bank., $99,800, all three buildings; furnishing steel required from Milliken Bros., 111 Bway., New York City, $12,770. Noted May 31.

Fla., Pensacola—Tower—Bureau Yards and Docks., Navy Dept., Wash., received low bids constructing steel tower at Navy Aëronautic Station, from C. H. Turner, $25,260, and Penn Bridge Co., Bond Bldg., Wash., $27,983. Noted May 10.

★Fla., Sanford—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., let contract to A. Blair, Hill Bldg., Montgomery, Ala., $50,189. Noted June 14.

La., New Orleans—Towers—Lighthouse Inspector, New Orleans, received low bids, from Milwaukee Bridge Co., 1400 34th St., Milwaukee, $16,800; Stupp Bros. Bridge and Iron Co., Frisco Bldg., St. Louis, $17,200; Christopher & Simpson Iron Works, 9th and Park Ave., St. Louis, $17,640. Noted May 3.

O., Akron—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids, limestone, from J. G. Wiese, 1301 City Natl. Bank, Omaha, $297,430 and W. H. Maxwell, Lake Sheland, Wash., $342,400. Noted May 17.

Tex., Denton—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received only bid from W. D. Lovell, 1415 South East 8th St., Minneapolis, $71,400. Noted May 17.

★Okla., Altus—Post Office—J. A. Wetmore, superv. archt., treas. dept., let contract to W. D. Lovell, 1415 8th St., S. E., Minneapolis, $46,200. Noted June 14.

N. M., Garfield—Canals—U. S. Rec. Ser., El Paso, Tex., received bids on Rio Grand Project, from Knowles & Warren; Lee & Moor Contr. Co.; W. J. Harris, all of El Paso. Noted Apr. 26.

★Ariz., Yuma—Pumping Machinery—U. S. Rec. Ser., Denver, let contract, for use at Yuma Valley Drainage plant, Yuma Project, to Fairbanks-Morse Co., 900 South Wabash Ave., Chicago, $23,299. Noted May 24.

MISCELLANEOUS

Proposed Work

Creek Improvements—Binghamton, N. Y.—W. E. Weller, city engr., preparing plans creek improvements to relieve situation caused by overflow of 5 streams.

Park—Troy, N. Y.—City plans, on Oakwood Ave. A. E. Roche, city engr.

Fire Hydrants—Baltimore, Md.—See "Streets and Roads."

Hull—Akron, O.—See "Structural Steel."

Park Improvements—Cleveland, O.—City Council passed ordinance to issue $56,000 bonds to improve parks. R. Hoffman, city engr.

Unloading Device—Cleveland, O.—Until June 27 by E. Shattuck, 219 City Hall, purch. agt., for 1 50-ton unloading device for Street Dept.

Speedway, etc.—Columbus, O.—Columbus Motor Speedway & Horse Racing Co. plans combination speedway, 2 race tracks and steeplechase course. About $500,000. J. Y. Basell, chn.

Dam—Ft. Wayne, Ind.—St. Joseph River Dam & Park Assn. soon receives bids for dam on St. Joseph River. Address C. J. Getz, park supt.

Elimination of Grade Crossings—South Bend., Ind.—New York Central R.R. (Lines West of Buffalo) submitted plans to Bd. Pub. Wks. for approval, for eliminating grade crossings along line. About $1,201,800. B. S. Voorhees, Grand Central Station, New York City, engr. grade crossings.

Miscellaneous (Continued)

Levee Work—Dallas, Tex.—Dallas Co. Levee Improve. Dist. No. 2 voted $108,000 bonds for levee work.

Dam and Flume—Grangeville, Idaho—See "Reinforced Concrete."

Dock—Seattle, Wash.—See "Industrial Works."

Dock—Tacoma, Wash.—See "Reinforced Concrete."

Tunnel—Oakland, Cal.—East Bay Water Co. soon receives bids for 3½-mi. tunnel in connection with development of San Pablo Creek water supply for Oakland and vicinity.

Retaining Wall—St. John, N. B.—City soon receives bids, on Main St. About $20,000.

BIDS DESIRED

Portable Freight Conveyors—Albany, N. Y.—(Official)—Until July 13 by W. W. Wotherspoon, state supt. pub. wks., Capitol, for Terminal Contract No. 103; advertised in this issue.

Incinerator Plant—New York, N. Y.—Until June 25 (readvertised) by M. M. Marks, boro. pres., Room 2032, Municipal Bldg., for labor and materials required for installing refuse incinerator plant in Washington Market building, Fulton, West, Vesey and Washington Sts. Noted June 7.

BUILDING OPERATIONS FOR MAY

Following is a list of contracts awarded by the F. W. Dodge Co. for:

New York, New England, New Jersey, Pennsylvania, Delaware, District of Columbia, Virginia, Ohio, West Virginia, Indiana, Iowa, Wisconsin, Michigan, Minnesota, North and South Dakota, and portions of Missouri and eastern Kansas:

Contracts awarded Jan. 1 to June 1:

1917	$624,861,000
1916	456,101,500
1915	321,241,100
1914	300,721,000
1913	379,001,500
1912	327,015,000
1911	339,167,813
1910	366,037,505

NEW YORK AND NORTHERN NEW JERSEY

Contracts awarded Jan. 1 to June 1:

1917	$127,894,000
1916	59,526,500
1915	59,493,500
1914	56,036,000
1913	134,307,500
1912	98,730,000
1911	100,787,000
1910	110,603,000

For the larger territory covered contracts awarded amount to $157,563,000 against $148,513,000 for April and $132,744,000 for March, which shows a steady increase in building construction. For the smaller territory of New York and Northern New Jersey contracts awarded for May amount to $32,419,000 against $26,823,000 for April and $26,424,000 for March or an increase of about $6,000,000.

In the sub-division of this larger territory we find that in the New England states from January to June, 1916, there were about $82,144,000 worth of contracts awarded against $79,200,000 in 1917, or a loss during this year of over $3,000,000. In the territory around Philadelphia, Baltimore and Washington the contracts awarded this year amount to $76,000,000 against $68,000,000 last year. Around Pittsburgh they amount to $80,000,000 against $58,000,000,000 last year and in the Central West the 1917 contracts amount to $244,000,000 against $155,000,000, showing that the biggest increase is in that section. Throughout the Northwest 1917 shows contracts awarded amounting to $17,000,000 against contracts of 1916 of $31,000,000, or a loss of $14,000,000 during this year. Summed up, these figures show that the Central West and New York and New Jersey show the largest increase, with small gains in the Eastern Atlantic states and a large loss throughout the Northwest.

The "New Way" Motor Co., Lansing, Mich., have added to the list of service stations the following: Hubbard & Floyd, New York City, C. T. Burchfield, Philadelphia, and French & Allan, Chicago. These concerns will be more than pleased to see any "New Way" owners and operators and assist them in every way possible.

Refrigerating Equipment—Thiells, N. Y.—(Official)—Until July 12 by Bd. Managers, Letchworth Village, 7 Wall St., New York City; advertised in this issue.

Cast Iron Lamp Stands—Bayonne, N. J.—(Official)—Until June 26 by W. G. Muirheid, secy. Hudson County Park Comn., 1 Exchange Pl., Jersey City, furnishing 60 c.i. lamp standards; advertised in this issue.

Retaining Wall—Clifton, Ariz.—Until July 2 by M. Danenhauer, town clk., concrete and slag, along river.

PRICES AND CONTRACTS AWARDED

Breakwater—Hull, Mass.—Comn. on Waterways and Pub. Lands, State House, Boston, received bids, June 14, building breakwater at Gun Rock Point, Hull, requiring 17,000 tons stone from Rockport Granite Co., 31 State St., Boston, $1.87; Bay State Dredging & Contr. Co., 247 Atlantic Ave., Boston, $1.93; T. Fitzgibbon, Beverley, $2.05.

Docks—Buffalo, N. Y.—(Official)—Comr. Pub. Wks., Room No. 3, Municipal Bldg., received low bids, improving along Bird Island Pier, from Great Lakes Dredge & Dock Co., Morgan Bldg., $268,900; H. S. Kerbaugh, Inc., Morgan Bldg., $275,000; Cleveland Engr. Constr. Co., 901 Swetland Bldg., Cleveland, $296,467. Noted June 7.

★Retaining Wall—Hoboken, N. J.—See "Industrial Works."

CANTONMENT BUILDINGS

Following is list of cantonment buildings which we understand have been awarded by the U. S. Government: Ayer, Mass.; F. T. Ley & Co., Main St., Springfield, Mass.; American, Lake, Wash., Hurley, Mason & Co., Perkins Bldg., Tacoma, Wash.; Wrightstown, N. J., Irwin & Leighton, 126 North 12th St., Phila., Pa.; Atlanta, Ga.; Arthur Tufts, 7 West Ellis St., Atlanta; Columbia, S. C., Hardaway Contr. Co., 143 11th St., Columbus, Ga.; Battle Creek, Mich., Porter Bros., Detroit, Mich.; Rockford, Ill., Bates & Rogers Contr. Co., 37 West Van Buren St., Chicago, Ill.; aviation field at Rantoul, Ill., English Bros., 55 North Walnut St., Champaign, Ill.

American Capital to Build Peruvian Railroad—A railway across Peru, which will cut through the Andes and strike into the fertile country at the headwaters of the Amazon River, is projected to be built by American capital, the financial arrangements having recently been completed by Senator Henrique C. Zegarra, of Lima, and J. W. Flannagan, of Houston, Tex. The Peruvian Government has granted concessions all along the route, which traverses a rich agricultural, timber and mining country. Work is to begin this summer. The railway will be about 400 mi. long, running from the Pacific port of Palta, eastward to a point on the Maranon River (Amazon), where it is navigable by seagoing vessels. This railway is intended to afford rapid and adequate transportation for the rubber of western Brazil. It is expected that the construction will occupy three years, but operation will commence on the railway just as soon as the first hundred miles is completed.

W. T. Clark has resigned as manager of the Traylor Eng. & Mfg. Co., Allentown, Pa., and has accepted the position of manager of the Moline Plow Wks., Moline, Ill.

A. F. Ehrbar has been appointed general manager of the Duplex Mfg. & Fdry. Co., Elyria, O.

E. E. Taylor has been appointed advertising manager for the Acme Harvesting Machine Co., of Peoria, Ill.

Certainteed Products Co. will open a branch distributing office at 10th and Flanders Sts., Portland, Ore.

Elzner & Anderson, archts., have moved their offices to the Citizens' Bank Bldg., 4th and Main Sts., Cincinnati.

General Electric Co. has moved its New York offices to the Equitable Bldg., 120 Broadway.

Martini & Huneke Co. of America has moved its offices from the Woolworth Bldg., New York City, to 1201 Hudson St., Hoboken, N. J.

Wisconsin Bridge and Iron Co. announces the removal of its offices from 605 Colby-Abbot Bldg., Milwaukee, Wis., to its plant at North Milwaukee.

★Cement, etc.—Newton, N. J.—(Official)—Town Comn. let contracts as follows: Sothman Corp., 40 Exchange Pl., New York City, labor; Hart, Ilift & L. S. Ilift, cement; Segman & Bogart, sand; P. Cary Co., elastite. Noted June 7.

★Shafts—Brownsville, Pa.—See "Reinforced Concrete."

★Unloading Tower—Erie, Pa.—Anchor Line, Holand St., let contract to H. L. Stevens & Co., 910 South Michigan Ave., Chicago, $100,000.

★Docks—Jacksonville, Fla.—(Official)—Clyde Steamship Co., foot of Market St., let contract to W. P. Richardson & Co., Duval Bldg., Jacksonville, $150,000. Noted May 24.

★Grandstand—North Yakima, Wash.—State Fair Assn. let contract to J. H. Corbett, North Yakima, $18,610. Noted May 17.

★Jetty—Newport Beach, Cal.—City let contract rubble mound jetty at entrance to bay, about 58,400 tons rock, to W. Ledbetter Co., 651 Pacific Electric Bldg., Los Angeles, $124,700. Noted May 17.

Dam—San Rafael, Cal.—Marin Municipal Water Dist. received low bids as follows: H. A. Klyce, Sheldon Bldg., San Francisco, $172,890; Leonard & Hansen, $211,626; Duncanson-Harrelson Co., 7th Ave., Merritt, $235,861.

Platt Iron Works have moved their offices to Room 705, 160 Bway., New York City.

F. C. Wilcox and **H. B. Franklin** of the Foote Concrete Machinery Co., Chicago, have organized the firm of Wilcox, Franklin & Co., with headquarters at 1324 South Michigan Ave., Chicago, to handle Sterling motor trucks and Troy trailers in Illinois and portions of Indiana and Iowa. A day-and-night service department will be operated in conjunction with their showroom.

Delaware River Dredging Co., Gloucester City, N. J., has been incorporated with a capital of $1,000,000 to engage in dredging work. The officials of the company, all connected with the Pennsylvania Shipbuilding Co., Land Title Bldg., Philadelphia, Pa., are: George S. Hoell, Pres.; Elmer J. Shinn, Vice Pres. and Treas.; and L. E. Norbom, Secy.

George W. Pawling & Co., Camden, N. J., have been incorporated with capital of $25,000 to engage in a general contracting business. George Pawling, Louis J. Bergdoll and Walter D. Stewart, all of Philadelphia, are the incorporators.

TRADE CATALOGS

Bonanza Cement Tile Roofing. American Cement Tile Manufacturing Co. Oliver Bldg., Pittsburgh, Penn. Data sheets (second edition). 55 pp.; 5½x8 in.; illustrated. Handbook giving sizes and shapes of cement tile for roofing and a number of plates showing layout of typical roof installations.

"Progress in Water-Works Pumps." De Laval Steam Turbine Co., Trenton, N. J. This is a treatise on the development and advantages of steam-turbine-driven centrifugal pumps for city water supply and contains descriptions of installations in different cities.

"On the Trail of Byers Pipe." A. M. Byers Co., Pittsburgh, Penn. Booklet. Pp. 40; 4x6 in.; illustrated. This is a record of the service given by Byers pipe in plumbing, heating and power stations installed from 25 to 40 years ago.

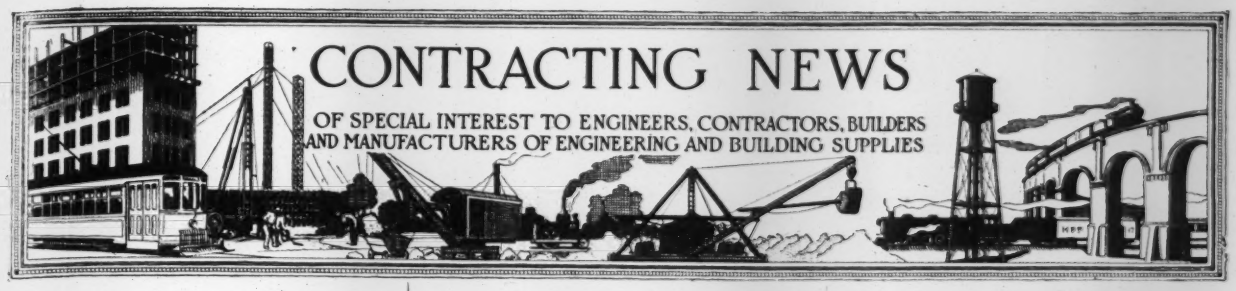
Duriron Pipe, Fittings, Valves, Centrifugal Pumps, etc. Duriron Castings Co., Dayton, Ohio. Bulletin No. 100. Pp. 24; 8x10½ in.; illustrated.

Secondhand Equipment Contractors', Electrical, Steam, Hydraulic, Gas. MacGovern & Co., 114 Liberty St., New York. List of equipment on hand. Pp. 58; 3½x8½ in.; illustrated.

Elevating, Conveying, Crushing, Screening, Power Transmission Machinery. The Jeffrey Mfg. Co., Columbus, Ohio. General Catalog No. 84. Pp. 352; 6x9 in.; illustrated.

United States Motor Truck Company—Catalog 17. Thirty-two pages of pictures and descriptions.

Portable Pneumatic Compression and Hammer Riveting Machines. John F. Allen Co., 372 Gerard Ave., New York. Catalog: pp. 40; 6 x 9 in.; illustrated.



Proposals

For Proposals Advertised See Pages 50 to 58 Inclusive

WATER-WORKS

Bids Close		See Eng. News-Record
July 1.	Leeds, N. D.	June 7
July 1.	Fessenden, N. D.	June 7
July 1.	Strathroy, Ont.	June 21
July 2.	Hazen, N. D.	June 14
July 2.	Farmington, Ill.	June 21
July 2.	Augusta, Kan.	June 21
July 2.	East Liverpool, O. Adv. June 21.	June 21
July 2.	Shawano, Wis.	June 28
July 2.	Towner, N. D.	June 28
July 2.	Waverly, Ia. Adv. June 28.	June 28
July 3.	Chardon, O.	June 14
July 6.	Winchester, Ky.	June 21
July 10.	Duluth, Minn.	June 14
July 10.	New York, N. Y. Adv. June 14 and Adv. to 28.	June 21
July 12.	Cuba City, Wis. Adv. June 14 to 28.	June 28
July 17.	New York, N. Y. Adv. June 7 to 28.	June 14

SEWERS

July 2.	San Luis Obispo, Cal.	June 28
July 2.	Cincinnati, O.	June 28
July 2.	Gary, Ind.	June 28
July 2.	Youngstown, O.	June 28
July 2.	Graham, Tex.	June 28
July 2.	St. Paul, Minn.	June 28
July 3.	Davenport, Ia.	June 14
July 3.	Ankeney, Ia. Adv. June 21.	June 21
July 3.	Lambert, Miss.	June 28
July 3.	Brooklyn, N. Y.	June 28
July 6.	Cleveland, O. Adv. June 21 and 28.	June 21
July 6.	Lockport, Ill.	June 28
July 6.	Arthur, Ia.	June 28
July 7.	Bedford, O.	June 28
July 7.	Pine City, Minn.	June 21
July 9.	Brooklyn, N. Y.	June 28
July 10.	Beloit, Wis.	June 28
July 10.	Spirit Lake, Ia.	June 28
July 12.	Bridgeport, Conn. Adv. June 14 to 28.	June 14
July 12.	Neenah, Wis.	June 28
July 23.	Wingdale, N. Y. Adv. June 28.	June 28

STRUCTURAL STEEL WORK

June 30.	Birmingham, Ala.	June 28
July 1.	Akron, O.	June 21
July 2.	Fairview, Okla.	June 21
July 2.	Greenville, Miss.	June 21
July 2.	Visalia, Cal.	June 21
July 2.	Warren, Minn.	June 21
July 2.	Beach, N. D.	June 28
July 2.	Boston, Mass.	June 28
July 2.	Bridgeport, Conn. Adv. June 28.	June 28
July 3.	Mt. Vernon, Wash.	June 28
July 3.	Johnstown, Pa. Adv. June 21 and 28.	June 28
July 6.	Corydon, Ind.	June 21
July 6.	Salem, Ore.	June 28
July 7.	Cleveland, O.	June 28
July 9.	Salem, N. J.	June 28
July 9.	Olympia, Wash.	June 28
July 10.	La Grange, Tex.	June 28
July 10.	Vincennes, Ind.	June 28
July 13.	Lansing, Mich.	June 28
July 15.	Orange, Tex. Adv. June 7 to 21.	June 7
July 17.	West Palm Beach, Fla. Adv. June 21.	June 21
Aug. 2.	Miami, Fla. Adv. June 28.	June 28

REINFORCED CONCRETE

July 2.	Hamlin, W. Va.	June 14
July 2.	Warren, Minn.	June 21
July 3.	Westfield, N. J.,	June 28
July 5.	Plainfield, N. J.	June 28
July 5.	Kankakee, Ill.	June 28
July 5.	Rahway, N. J.	June 28
July 5.	Lawrence, Mass. Adv. June 21 and 28.	June 28
July 9.	Alexandria, Minn.	June 28
July 9.	Barberton, O.	June 28
July 9.	Camden, N. J. Adv. June 28.	June 28
July 10.	Montezuma, Ga.	June 21
July 15.	Kansas City, Kan.	June 28
July 16.	Berkeley Springs, W. Va.	June 28
July 17.	Geneva, Neb.	June 28
July 17.	New Brunswick, N. J. Adv. June 28.	June 28

STREETS AND ROADS

June 30.	Cumberland, Md.	June 28
July 1.	Pine City, Minn.	May 31
July 2.	Hamlin, W. Va.	June 7
July 2.	Frederick, Md.	June 14
July 2.	Indiana	June 14
July 3.	Indiana	June 14
July 2.	Martinez, Cal.	June 21
July 2.	Waterville, Wash.	June 21
July 2.	Shelton, Wash.	June 21
July 2.	San Jose, Cal.	June 21
July 2.	Buhl, Minn.	June 21
July 2.	Fowler, Ind.	June 28
July 2.	Jefferson, O.	June 28
July 2.	Schuylkill Haven, Pa.	June 28
July 2.	Kalama, Wash.	June 28
July 2.	East Liverpool, O.	June 28
July 2.	Newport, Ark.	June 28
July 3.	Jersey City, N. J.	June 28
July 3.	Lafayette, Ind. Adv. June 21 and 28.	June 21
July 3.	Rutherford, N. J.	June 21
July 3.	Delphi, Ind.	June 28
July 3.	Salt Lake City, Utah	June 28
July 3.	Trenton, N. J.	June 28
July 3.	Winnetka, Ill.	June 28
July 3.	Greenville, Ind.	June 28
July 5.	Ventura, Cal.	June 28
July 5.	Glencoe, Ill.	June 28
July 5.	Tarrytown, N. Y. Adv. June 21 and 28.	June 28
July 6.	Vancouver, Wash.	June 21
July 6.	South Bend, Wash.	June 28
July 6.	Ventura, Cal.	June 28
July 6.	St. Johnsville, N. Y. Adv. June 21 and 28.	June 28
July 7.	Selma, Ala.	June 28
July 9.	Winfield, W. Va. Adv. June 14.	June 21
July 9.	Albany, N. Y. Adv. June 21 and 28.	June 21
July 9.	East View, O.	June 28
July 9.	Clarksburg, W. Va.	June 28
July 10.	Putnam, Va. Adv. June 21 and 28.	June 21
July 10.	Erwin, Tenn.	June 21
July 10.	Aberdeen, Miss.	June 21
July 10.	West New York, N. J.	June 28
July 10.	Rockville, Md. Adv. June 28.	June 28
July 11.	Washington, Pa.	June 28
July 11.	Mt. Holly, N. J. Adv. June 28.	June 28
July 12.	Olean, N. Y. Adv. June 28.	June 28
July 12.	Newark, N. J.	June 28
July 13.	Cincinnati, O.	July 28
July 14.	Indiana	June 14
July 14.	Pine Bluff, Ark.	June 28
July 16.	California	June 28
July 18.	Belvidere, N. J. Adv. June 28.	June 28
July 19.	Flemington, N. J.	June 28
July 24.	Pennsylvania	June 28
Aug. 13.	Lewiston, Idaho	May 24

EXCAVATION AND DREDGING

June 30.	Arcadia, Fla.	June 14
June 30.	Tuscola, Ill.	June 21
June 30.	Newton, Ia.	June 21
July 2.	Trenton, N. J. Adv. June 21 and 28.	June 21
July 2.	Grundy Center, Ia.	June 21
July 6.	Savanna, Ill. Adv. June 21 and 28.	June 21
July 6.	Central Islip, N. Y. Adv. June 21-88.	June 28
July 6.	West Haverstraw, N. Y. Adv. June 21-28.	June 28
July 12.	Madison, S. D.	June 28
July 12.	Boone, Ia.	June 28
July 12.	Redwood Falls, Minn.	June 28
July 14.	Cambridge, Minn.	June 28
July 16.	Hanna, Ill. Adv. June 28.	June 28
July 18.	Glenwood, Ia. Adv. June 21 and 28.	June 21
July 19.	Greenville, Miss. Adv. June 21 and 28.	June 28
July 20.	St. Cloud, Minn.	June 21

BUILDINGS

July 1.	Magnolia, Ark.	June 14
July 1.	Riverton, Minn.	June 7
July 2.	Portsmouth, O.	June 21
July 3.	Orange, Tex.	June 28
July 5.	Cleveland, O.	June 28
July 9.	Cleveland, O.	June 14
July 10.	Almont, N. D.	June 28
July 10.	Rocky River, O.	June 28
July 10.	Huron, S. D.	June 21
July 12.	Philadelphia, Pa. Adv. June 21 and 28.	June 28
July 16.	Great Bend, Kan.	June 28
July 18.	Concordia, Kan.	June 28
July 19.	Shenandoah, Ia.	June 28
July 23.	Columbus Jct., Ia.	June 28
July 30.	Ft. Wayne, Ind.	June 28

FEDERAL GOVERNMENT WORK

June 30.	Detroit, Mich. Adv. June 7 and 14.	June 14
June 30.	Memphis, Tenn. Adv. June 21.	June 21
June 30.	Tompkinsville, N. Y. Adv. June 28.	June 28
July 2.	St. Louis, Mo.	June 21
July 2.	Memphis, Tenn. Adv. June 21 and 28.	June 21
July 2.	Washington, D. C.	June 28
July 5.	Wilmington, Del. Adv. June 14 to 28.	June 14
July 5.	Topeka, Kan.	June 21
July 5.	Wilmington, Del.	June 21
July 5.	New York, N. Y. Adv. June 21 and 28.	June 21
July 9.	Glenwood, Ia. Adv. June 21 and 28.	June 28
July 9.	Annapolis, Md.	June 28
Aug. 9.	Du Bois, Pa.	June 28
July 10.	Buffalo, N. Y. Adv. June 14 to 28.	June 14
July 10.	Buffalo, N. Y.	June 21
July 10.	Washington, D. C. Adv. June 21 and 28.	June 28
July 11.	Vicksburg, Miss. Adv. June 21 and 28.	June 21
July 12.	Hoopeston, Ill.	June 7
July 16.	Newburyport, Mass.	June 14
July 16.	Charleston, W. Va.	June 28
July 18.	St. Ignatius, Mont. Adv. June 21.	June 21
July 20.	Ft. Fairfield, Me.	June 21
July 23.	Cincinnati, O. Adv. June 21 and 28.	June 28
July 26.	Gallatin, Tenn. Adv. June 21 and 28.	June 28
July 27.	Vernon, Tex.	June 28

MISCELLANEOUS

July 2.	Retaining Wall — Clifton, Ariz. Adv. June 21.	June 21
July 5.	Coal—Ionia, Mich. Adv. June 28.	June 28
July 9.	Marble Wainscoating—Media, Pa.	June 28
July 12.	Refrigerating Equipment—Thiells, N. Y. Adv. June 21 and 28.	June 21
July 13.	Freight Conveyors—Albany, N. Y. Adv. June 21 and 28.	June 21

Where name of official is not given, inquiries should be addressed to City Clerk,, County Clerk or corresponding official.

WATER-WORKS

Proposed Work

Tenn., Trezevant—City election July 17 to vote on $12,500 bonds to extend and improve water system. Noted Apr. 5.

O., Alliance—City appropriated $10,000 to improve filter tanks. J. O. Stanley, supt.

O., Lewisburg—City election July 9th to vote on $10,000 bonds to extend and improve water system. G. Wilson, supt.

Ill., Canton—City soon receives bids for improving water-works. J. P. Gallagher, supt.

Ill., East Chicago—East Chicago & Indiana Harbor Water Co. having plans prepared by Metcalf & Eddy, engrs., 111 West Monroe St., Chicago, for filtration plant. About $80,000 E. Jenkins, 4735 Olcott Ave., supt.

Ill., Salem—City plans to install water mains in various streets. About $40,000. A. Kell, mayor. Caldwell Engr. Co., Ayers Bldg., Jacksonville, engr.

Wis., Niagara—City retained W. S. Shields, engr., 8 South Dearborn St., Chicago, to prepare plans for water and sewerage systems, artesian wells, elevated steel tank, etc. About $25,000.

Minn., Duluth—City will extend water and gas mains for 2 mi. from 84th Ave., W., to intersection of Commonwealth and Zimmerly Aves. About $50,000. Reed, mgr.

Minn., Plainview—Village voted $11,000 bonds to improve water system.

Kan., Chanute—City had plans prepared by Black & Veatch, engrs., 507 Interstate Bldg., Kansas City, Mo., for filtration plant, 2,000,000-gal. capacity. About $100,000. C. G. Wood, clk.

Kan., La Crosse—City soon lets contract for water-works and electric light improvements. About $50,000. W. B. Rollins & Co., 209 Railway Bldg., Kansas City, Mo., engrs. Noted June 14.

N. D., Langdon—City having plans prepared by T. R. Arnold, engr., Leland Hotel, Minot, for installing water-works and sewers. J. Sheehan, clk.

Mont., Denton—City plans election to vote on $50,000 to $60,000 bonds to install water-works system.

Tex., Dallas—See "Structural Steel."

Okla., Quinton—Town plans election to vote on bonds to build water-works system.

Okla., Rocky—City election June 28 to vote on $20,000 bonds for waterworks and electric light plant.

Colo., Colorado Springs—City having plans prepared for addition to reservoir No. 4 to increase capacity from 660,000,000 gal. to 864,000,000 gal. About $35,000. B. Reynolds, supt.

Wash., Pullman—See "Streets and Roads."

Wash., Seattle—Co. Comrs. ordered installation of pipe line in Water Dist. No. 5 from Kirkland under Lake Washington to Yarrow and Hunts Point. About $16,000.

Wash., Seattle—Bd. Pub. Wks. approved plans installing water mains in 10th Ave., N.E. et al. to cost $42,000. L. B. Youngs, supt.

Wash., Tacoma—Council passed ordinance to install cast-iron water mains in River St. et al. About $14,000. J. Nichol, supt.

N. B., Woodstock—City plans to install new water system in Connell Park. About $45,000. A. S. Field, supt.

Que., Hull—Council plans to install water mains. About $11,000. J. P. A. Laforest, city engr.

BIDS DESIRED

Wis., Cuba City—(Official)—Until July 12 by W. Brewer, village clk., for drilling deep well and installing new pump and motor, advertised in this issue.

Wis., Shawano—Until July 2 by B. Royer, pres. electric light and water comn., for furnishing high pressure non-condensing heavy duty Corliss engine and 3 motor-driven centrifugal pumps. Noted June 14.

Ia., Waverly—See "Reinforced Concrete."

N. D., Towner—Until July 2 by A. M. Berget, city aud., for underground reservoir.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★Pa., Burgettstown—Langeloth Townsite Co., Langleloth, let contract filtration plant to Pihl & Miller, Wabash Bldg., Pittsburgh, $100,000.

Pa., Phila.—City received low bids furnishing and laying 15,000 ft. pipe northeast section from C. D. Band, 28th and Cambria Sts., 23,300 ft., northwest section, from P. J. Snyder & Co., Bailey Bldg., $97,037; 13,500 ft. south and west sections, M. & J. B. McHugh, 892 North Market St., $47,886.

★O., Kenmore — (Official) — Village let contract improving waterworks to W. L. Slayton & Co., 636 Ohio Bldg., Toledo, $14,012.

★O., Kenton—City let contract installing 2 6,000,000-gal. pumps for water plant to Hill Pump Co., Anderson, Ind.

★O., Mansfield—City let contract improving water-works to Ideal Electric Co., 5th and Elm St.; J. Hursh and Mansfield Electric Light & Power Co., all of Mansfield.

★Minn., Madison—City let contract extension to water-works to J. A. Ray, Tracy.

★Kan., Beloit—City let contract water purification plant to E. Jones, Leavenworth, $23,085.

★Ont., Sudbury—Council let contract 500,000-gal. steel stand pipe to Chicago Bridge & Iron Co., Bridgeburg, $31,000. Noted May 24.

SEWERS

Proposed Work

N. J., New Brunswick—City plans to install sewers in 12 streets. A. Atkinson, city engr.

Pa., Meyersdale — See "Streets and Roads."

S. C., Spartanburg—City voted $40,000 bonds to extend sewerage system. R. Tull, city engr. Noted June 7.

Miss., Clarksdale—City soon lets contract installing sanitary sewerage system involving 4400 ft. 12- and 1600 ft. 8-in. vitr. sewer pipe, sewer, manholes, branches, etc. W. S. Bobo, city engr.

★O., Canton—City plans to install sanitary sewers portions Bonnot Pl., N. E. and St. Elmo Ave. N. E. W. E. Sarver, city engr.

O., Canton—City election in August to vote on $210,000 bonds to install east and west intercepting sanitary sewers. W. E. Sarver, city engr.

O., Hamilton—See "Streets and Roads."

O., Lima—City plans election in fall to vote on $1,000,000 bonds to install sewers. V. Miller, city engr. Noted May 31.

O., Linndale—Town to sell $12,590 bonds July 17 to install sewers in various streets. A. L. Wurstner, clk.

O., Mt. Vernon—City passed ordinance to install sanitary sewers portion Wooster Ave. W. C. Anderson, city engr.

O., Uhrichsville—Village receiving bids about July 15 installing sewage disposal plant and sanitary sewers. About $50,000. H. C. Snyder, clk.

Ind., New Palestine—City having plans prepared for storm sewer. C. Boone, Greenfield, supt. of constr.

Mich., Menominee — Council approved plans of T. R. Hasley, city engr., installing new sewer district. About $15,000. Noted June 7.

Ill., Chicago—Council approved plans installing sewers in northwest section of city. About $535,000. J. Ericson, city engr.

Ill., East Moline—City plans to install storm drainage system. About $250,000. A. Warnes, city engr.

Ill., Mason City—City rejected bids installing sewerage and drainage system as same were too high. About $20,000. W. G. Burnsmier, mayor. Noted June 7.

Ill., Springfield—City plans to repair damaged sewers. About $10,000. W. D. Seeley, city engr.

Wis., Milwaukee—Council plans to issue $400,000 bonds for Lake, Dakota Sts., and Delaware Ave. sewer extensions and Rush Ave. outlet. F. Stahl, supt.

Wis., Niagara—See "Water-Works."

Minn., Grand Meadow—City having plans prepared by Rose & Harris, engrs., 471 Auditorium Bldg., Minneapolis, for installing sewerage system and Imhoff tank. F. F. Forbes, clk.

Minn., St. Paul—Council approved plans to install sewers in Palace, Clarence and Forest Sts., Berkeley and Capitol Aves. O. Claussen, city engr.

Minn., St. Paul—Council plans to install sewers in Doswell, St. Lawrence, Arundel, Stinson, Mackubin, Lawson, Kent, Stanford, 6th, Wagner and Edgerton Sts., Pascal, Van Slyke and Como Aves., also Knapp Pl. O. Claussen, city engr.

N. D., Langdon—See "Waterworks."

Mont., Butte—See "Streets and Roads."

Mont., Great Falls—Council plans to issue $120,000 bonds to install drainage sewer along Valleria Way and $16,000 for sewer in 9th St. L. B. Evenson, city engr.

Ark., Stuttgart—City plans new storm sewer district to drain the western section of city. About $29,700.

Tex., Waco—State Attorney General's Dept. approved $25,000 bond issue to install sanitary sewerage system and $25,000 to improve streets. E. B. Gunley, city engr.

Okla., Frederick—City plans election to vote on bonds to install sewers and pave streets.

Okla., Miami—City plans election to vote on bonds for sewerage system.

Colo., La Junta—F. T. Lewis, city engr. prepared plans for sewerage system. About $20,000. Santa Fe R.R. will pay part of cost.

Idaho, Rupert—Council passed ordinance to install sewers in Local Sewerage Improv. Dist. No. 1. About $92,312. W. F. Scheffel, clk.

Utah, Ogden—City plans to install 3rd Ward sewerage system. About $172,000. J. M. Tracey, city engr.

Wash., Seattle—A. H. Dimock, city engr., submitted plans to Bd. Pub. Wks., estimating cost installing trunk sewer, Empire Way and 42nd Ave. S., et al., at $255,343.

Ore., Seaside—Council plans to rebuild east and west side sewerage systems. About $12,000.

N. S., Halifax—City soon lets contract installing sewers various streets. About $75,000. P. F. Martin, mayor.

Ont., Hamilton—City soon receives bids installing sewers in Charlton Ave. About $50,000. E. R. Gray, city engr.

BIDS DESIRED

N. Y., Brooklyn—Until July 3 by L. H. Pounds, boro. pres., for sewers in Kenmore, Elmore, Delamere and Mansfield Pl., East 36th St. and Ave. H.

N. Y., Brooklyn—Until July 9 by L. H. Pounds, boro. pres., for completing work including all labor, materials and incidentals of contract of Norton & Gorman Contr. Co., which was declared abandoned on May 15, for constructing sewers and appurtenances together with all work incidental thereto in 84th, 86th, Bay 38th, West 12th, Stillwell and other streets and avenues. Engineers preliminary estimate of work, $77,988.

N. Y., St. Johnsville—See "Streets and Roads."

N. Y., Wingdale—(Official)—Until July 23 by Comn. on New York Prisons, Room 615 Hall of Records, for sewage disposal plant at Wingdale Prison; advertised in this issue.

Miss., Lambert—Until July 3 by city installing 2 mi. sewers and septic tank. Noted June 14.

O., Bedford—(Official)—Until July 7 by H. T. Hubbell, village clk., installing sewer portion Blaine Ave.

O., Cincinnati—(Official)—Until July 2 by C. F. Hornberger, dir. pub. ser., improving sewers portion Adelphi St., Arnsby Pl. and Azelea Ave.

O., Youngstown—(Official)—Until July 2 by H. Parrock, dir. pub. ser., installing sewers in Albert and Jones Sts. and West Princeton and Rosedale Aves.

Ind., Gary—Until July 2 by City installing sewers various streets. About $11,000. W. P. Cottingham, city engr.

Wis., Beloit—(Official)—Until July 10 by Bd. Pub. Wks. installing sewers in 3 streets in Sewer Dist. "A," 28 streets in Dist "B," 15 streets in Dist. "C" and 4 streets in Dist. "D." G. E. Heebink, city engr.

Sewers (Continued)

Wis., Neenah—Until July 12 by Bd. Pub. Wks. installing 5300 lin.ft. sanitary sewers.

Ia., Arthur—(Official—Until July 6 by City installing 11,000-ft. sanitary sewers and septic tank. About $14,000. Noted June 14. F. Wheney, clk.

Ia., Spirit Lake—(Official)—Until July 10 by C. T. Noll, town clk., for sewerage and sewage disposal system, involving 10½-mi. sewers, Imhoff tank, dosing chamber, sludge bed and filter beds. C. H. Currie, Webster City, engr.

Minn., St. Paul—Until July 2 by H. W. Austin, city purch. agt., for installing storm water relief sewers in 6th and Wagner Sts., force main sewer in Edgerton St. O. Claussen, city engr.

Tex., Graham—Until July 2 by E. S. Graham, mayor, installing sewerage system and sanitary disposal plant. About $25,000. H. E. Elrod, Interurban Bldg., Dallas, engr. Noted May 24.

Cal., San Luis Obispo—Until July 2nd by City extending sewerage system involving 2-mi. 6-in. and 8-in. pipe. About $10,000. Noted May 3. W. B. Burch, city engr.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

Mass., Dorchester—City received low bid installing sewerage works in Almont St. from A. Cefalo, 316 Belgrade Ave., Roslindale.

★**N. Y., New York**—City let tunnel relief sewer and appurtenances portion West 46th St., Contract No. 2, to Melrose Constr. Co., 147 East 125th St., $83,630. Noted June 21.

N. Y., Scarsdale—(Official)—St. Comr. received low bids installing lateral sewers and appurtenances from J. Cuozzo, 179 Linden St., Yonkers, $25,319; F. Bracalello, Scarsdale, $39,507; Daly & Merritt, Port Chester, $46,842. Noted June 14.

N. J., Newark—Passaic Valley Sewerage Comrs. received low bids installing northerly portion of Section 27, Kearney-Harrison branch intercepting sewers, from Harrison & Craig, 837 Broad St., $104,662; Culp Co., Inc., East 43rd St., Paterson, $112,465; Dock Contr. Co., 95 River St., Hoboken, $127,650. Noted June 7.

★**Pa., Wilkinsburg**—See "Streets and Roads."

★**O., Dayton**—City let contract installing storm sewers portion West 5th St. and Vernon Pl. to T. P. Strack, and W. C. Kerschner & Son, $17,695 and $24,421 respectively.

★**Ill., Moline**—City let contract installing storm drains 19th St. and paving 25th St. Dist. with brick to McCarthy Improv. Co., 3rd and Perry Sts., Davenport, $12,708 and $37,490 respectively.

★**Wis., Juneau**—City let contract installing sanitary sewers to G. W. Mulholland, Rockford, Ill., $30,133; septic tank to A. E. Fuerbinger, Jefferson, $2850.

★**Wis., Kenosha**—Bd. Pub. Wks. let contract installing 6000 lin.ft. vitr. pipe sewer to Ostergaard & Ostergaard, Kenosha, $13,518.

★**Wis., Kimberly**—City let contract laying 1 mi. storm and sanitary sewers to Farnham & Yahr, Antigo, $21,000. Noted June 21.

★**Wis., Little Chute**—City let contract installing storm and sanitary sewers to Gray-Robinson Constr. Co., Manitowoc.

★**Wis., Osceola**—City let contract sanitary sewerage and water supply systems to W. C. Fraser, Germania Life Bldg., St. Paul, $30,000. Noted Apr. 17.

★**Wis., Racine**—City let contract installing sewers in Blake Ave. to P. Gavahan; Howe St. to R. Nelson; Hayes Ave. to Reichert Constr. Co.

★**Neb., Omaha**—Council let contract installing storm sewer from 37th and Sprague St. to 45th and Ohio St. to Nebraska Constr. Co., $57,000.

★**N. D., Bismarck**—(Official)—City let contract installing storm sewers to Gechney & Murphy, Minneapolis, $12,000. Noted June 14.

★**N. D., Fargo**—City let contract installing sewers portion 5th, 6th and 7th Sts., S., to Schruth & Jackson, Fargo, $15,195.

★**Mont., Terry**—City let contract installing sewerage system to Security Bridge Co., Billings, $13,050.

★**Tex., McKinney**—City let contract installing sewage disposal plant to McKinney Sewerage Co., McKinney. About $25,000. Noted June 14.

★**Ariz., Yuma**—City let contract installing 17,250 ft. sanitary sewers and 2570 ft. storm sewers to C. H. Julian, 303 American Bank Bldg., San Diego, Cal., $37,058.

★**Cal., Los Angeles**—City let contract installing sewer portion Victoria Park Dr. to W. A. Frick and J. Ukropina, $14,900. Noted June 21.

★**Cal., Watts**—See "Streets and Roads."

STRUCTURAL STEEL WORK

Proposed Work

Mass., Fall River—J. B. Parent had plans prepared for 3-story, 97 x 166-ft. steel addition. About $100,000.

N. J., Jersey City—Bd. Freeholders approved plans for 14th St. viaduct. About $58,000.

N. J., Rahway—Bd. Freeholders plan to build approaches to new Grand St. bridge. About $16,000. J. L. Bauer, Elizabeth, co. engr.

Va., Richmond—State Highway Dept. soon receives bids building bridge over Reedy Creek near Reedy. E. S. Gliden, Richmond, engr.

Ga., Newton—Baker and Mitchell Cos. plan to build bridge over Flint River at Newton. About $30,000.

Ga., Rome—County plans to build bridge over Etowah River. About $15,000.

Tenn., Knoxville—Louisville & Nashville R.R. plans to build 6 span bridge over Tennessee River to replace present structure. W. H. Courtenay, Louisville, Ch. Engr.

Mich., Detroit—City soon receives bids building bridge over Michigan Central R.R. on Vermont Ave. About $55,000. R. H. McCormick, city engr.

Ill., Chicago—Western Union Telegraph Co. plans 6-story steel building on La Salle St. About $1,000,000. C. H. Gaunt, 111 West Jackson St., supt. western div.

Ia., Waterloo—C. T. Wilson, city engr., submitted plans to council estimating cost building bridge over Black Hawk Creek at Wellington St. and Leland Ave. at $30,200.

Minn., Cass Lake—County to sell $11,000 bonds to build bridges.

Mo., Excelsior Springs—City election July 3 to vote on $12,500 bonds to build bridges.

Mo., Kansas City—Bd. Park Comrs. plan bridge over Cliff Dr. and Chestnut St. About $36,000. A. C. Harrington, secy. Harrington, Howard & Ash, Arear-Leslie Bldg., engrs.

Tex., Dallas—City plans steel water tank on White Rock reservoir to supply proposed municipal prison farm, about 40,000-gal. capacity.

Okla., Ada—See "Streets and Roads."

Okla., Alex.—See "Streets and Roads."

Okla., Antlers—See "Streets and Roads."

Idaho, Grangeville—County plans to build bridge over Salmon River. About $25,000; White Bird Dist. to appropriate $10,000, Deer Creek and Canfield Dists., $7500 each.

Wash., Kalama—Comrs. Cowlitz and Clarke Cos. approved plans 300-ft. span steel bridge over Lewis River between 2 counties. About $15,000. Address Clk. Cowlitz Co., Kalama.

Ore., Salem—State Highway Dept. prepared plans building inter-county bridge between Marion and Polk Cos. here. Bids will soon be received for substructure, superstructure and approaches, each to be awarded separately. Pratt trusses will be 4 in number, each 152-ft., together with 1 111-ft. and 1 155-ft. span; 6 river piers and 260-ft. approach on east end and 780-ft. trestle approach on west end. About $200,000. C. H. Purcell, engr.

Cal., Oakland—County and Southern Pacific Co. had preliminary plans prepared bascule bridge over estuary between Oakland and Alameda, beginning at 5th and Webster Sts. R.R., highway portion will include roadway 36-ft. wide and 10-ft. sidewalks. About $1,500,000. W. Hood, San Francisco, ch. engr. Noted May 10.

BIDS DESIRED

Mass., Boston—(Official)—Until July 2 by Metropolitan Park Comn., 18 Tremont St., building bridge over Neponset River between Boston and Quincey. J. R. Rablin,

Conn., Bridgeport—(Official)—Until July 2 by Bd. Contr. & Supply, Room 23, City Hall, for sale of bridge superstructure; advertised in this issue.

N. J., Salem—Until July 9 by Bd. Freeholders for constructing Silverman Bridge on Woodstown Rd. and Tile Kiln Bridge on Yorketown Rd.

Pa., Johnstown—(Official)—Until July 3 by T. J. Harris, supt. sts. and pub. improv., City Hall, for improving Portage St. bridge; advertised in this issue.

Fla., Miami—(Official)—Until Aug. 2 by W. B. Moore, city clk., for bridge over Miami River; advertised in this issue.

Ala., Birmingham—Until June 30 by Bd. Revenue of Jefferson Co. for steel bridge over Warrior River. About $10,000.

O., Barberton—(Official)—Until July 9 by T. J. Davies, dir. pub. ser., for complete construction of concrete and steel viaduct known as Tuscarawas Ave. viaduct; advertised in this issue. Noted June 14 under "Structural Steel."

O., Cleveland—(Official)—Until July 7 by E. G. Krause, co. clk., for bridge work per report No. 4032.

Indiana—By Co. Comrs. building bridges as follows:

July 2: Spencer, 3 steel bridges. S. M. Royer, aud.

Danville: 3 arches, Center and Clay Twps. C. M. Haven, aud.

Lebanon: Building and repairing 7 bridges. C. Goodwin, aud.

Connersville: Bridge. Columbia Twp. G. Zell, aud.

Nashville: 2 rein.-con. bridges. O. Morrison, aud.

July 3: Decatur, building Bixler bridge. J. Mosure, aud.

Rensselaer: Building 3 steel bridges, repairing and removal of several others. J. P. Hammond, aud.

Monticello: 2 bridges. A. G. Fisher, aud.

Bloomfield: Bridge. Highland Twp. G. E. Kidd, aud.

Lawrenceburg: Bridges. Clay, Kelso, Manchester and Jackson Twps. H. E. Lutherbeck, aud.

Huntington: Rebuilding bridge Jackson Twp., repairing 1 Huntington Twp. O. E. Eviston, aud.

July 6: Kokomo, building and repairing several bridges. W. L. Benson, aud.

Mich., Lansing—Until July 13 by F. F. Rodgers, state highway comr., building trunk line bridge, No. 111, crossing Helmar Creek, Lakefield Twp.

N. D., Beach—Until July 2 by County for 200-ft. bridge over Garner Creek.

Tex., Lagrange—Until July 10 by Co. Comrs. for east approach to Colorado River Bridge, about 500 ft. long with 18-ft. roadway. R. Klatt, co. clk.

Washington—Until July 9 by State Highway Comn., Olympia, building Kalama River bridge, 2 170-ft. spans. Noted June 7.

Wash., Mt. Vernon—Until July 3 by Co. Comrs. building concrete piers, retimbering and rebuilding wooden spans and approaches bridge over Skagit River. About $23,000. E. Costello, co. engr. Bowerman & McCloy, Mutual Life Bldg., Seattle, engrs. Noted May 24.

Ore., Salem—(Official)—Until July 6 (date extended from June 20) by county for steel bridge over Williamette River, 4 152-ft., 1 155-ft. and 1 111-ft. spans carried on 6 piers. H. Nunn, state highway engr. Noted May 31.

Ont., London—See "Railways."

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Pa., Lewistown**—Pennsylvania R.R. let contract 5-span bridge over Juniata River to G. W. Rockwell, Sunbury. Noted May 4.

★**Pa., Oil City**—Pennsylvania R.R. let contract bridge over Red Bank and Clarion Rivers to T. L. Eyre, Commercial Trust Bldg., Phila.; bridge over Mahoning Creek to Whitaker & Diehl, Union Trust Bldg., Harrisburg.

Pa., Scranton—City received low bids building superstructure Parker St. bridge from Anthracite Bridge Co., Naers Bldg., $17,257 and C. L. Camp, $17,970.

★**N. C., Winston-Salem**—(Official)—County let contract bridge over Yadkin River near Donaha, to Vincennes Bridge Co., Vincennes, Ind., $27,300.

★**S. C., Gaffney**—Cherokee, Gaffney and York Co. Comrs. let contract building inter-county bridge over Broad St. to Southern Bridge Co., 39th St., Birmingham, $19,750. Noted May 31.

Structural Steel Work (Continued)

★**S. C., York**—City let contract steel bridge over Broad River to Southern Bridge Co., Birmingham, $19,750.

O., Columbus—City received low bids extension to Rich St. bridge from Capitol Constr. Co., Ruggery Bldg., $89,091; D. W. McGrath, New 1st Natl. Bank Bldg., $90,422; E. M. Sully, Columbus, $90,978. Noted June 4.

★**O., Youngstown**—Home Savings & Loan Co. let contract structural steel work on 10-story building, Chestnut and Federal Sts., to American Bridge Co., 30 Church St., New York City.

★**Ind., Bloomfield**—Co. Comrs. let contract building bridge over White River and Eel River Ditch to Vincennes Bridge Co., Vincennes, $19,948 and $8695 respectively.

★**Ind., Brookville**—County let contract steel bridge over east fork Whitewater River to Oregon Bridge Co., Lebanon, $26,739.

★**Ind., Columbus**—County let contract building additional span to St. Louis Crossing Bridge to A. Harmon, $11,414.

★**Ia., Des Moines**—County let contract for 25 bridges and culverts to N. M. Stark & Co., 1215 Mulberry St., $36,500.

★**Minn., Stewartville**—City let contract building bridge over Root River to J. P. Chase, Stewartville, $32,250.

★**Neb., Ord**—County let contract building bridges during year to Canton Bridge Co., Welver Bldg., Canton, O.

★**S. D., Redfield**—County let contract bridge over Turtle Creek to Iowa Bridge Co., 712 Hubbel Bldg., Des Moines, Ia., $16,000.

Idaho, Boise—See "Streets and Roads."

★**Wash., Winlock**—(Official)—City rejected bids opened June 5 for 70-ft. span steel bridge over Olequa Creek. Work will be done under supervision of R. W. Fletcher, city engr. Noted June 7.

REINFORCED CONCRETE

Proposed Work

Conn., Bridgeport—Connecticut Auto Mfg. Co., Connecticut Natl. Bank Bldg., having plans prepared by McE Walsh & Co., archts., Connecticut Natl. Bank Bldg., for rein.-con. auto sales building. About $80,000.

O., Columbus—Watson Eng. Co., 1150 Leader News Bldg., submitted plans to Co. Comrs. for 2 rein.-con. bridges over Olentangy River at Lane and 3rd Aves., with 4 spans and 30-ft. roadway and sidewalks. About $150,000 each.

O., Niles—City election July 24 to vote on $120,000 bonds to build 382-ft. bridge involving 4000 yd. concrete over Mahoning River at McDonald plant. H. W. Gurney, city engr. Noted May 31.

Ind., Lafayette—Chicago, Indianapolis & Louisville Ry. plans rein.-con. arch bridge. About $75,000. H. R. Kurrie, Chicago, pres.

Ill., Rockford—County received no bids building rein.-con. bridge over Sugar River, Harrison and Shirland Twps. New bids. A. R. Carter, co. supt. highways.

Wis., Milwaukee—Gemco Mfg. Co., 725 South Pierce St., having plans prepared by H. J. Esser, archt., Camp Bldg., for 3-story, 50 x 150-ft. rein.-con. addition. G. F. Discher, pres. and genl. mgr.

Wis., Racine—Racine Auto Tire Co. had plans prepared by R. H. Folwell, McCormick Bldg., Chicago, for 5-story, 260 x 320-ft., rein.-con. plant. L. Wright, Racine Sattley Bldg., secy. and treas.

Wis., Wausau—Council retained D. B. Luten, engr., Indianapolis, to prepare and estimate for rein.-con. bridge over Wisconsin River, 3-span structure to cost $55,000; single span, $80,000.

Minn., Owatonna—City rejected bids for rein.-con. bridge over Straight River, 2 65-ft. arches, 34-ft. roadway, 2 8-ft. sidewalks, etc. H. Dartt, city engr. Noted June 7.

Minn., St. Paul—City Council considering construction of rein.-con. viaduct to carry 4th St. from East 5th and John Sts. over railroad yards to connect with Commercial St. O. Claussen, city engr.

Kan., Beloit—A. E. Home, city engr., preparing plans rein.-con. bridge on Main St.

Neb., Grand Island—Comrs. Hall and Hamilton Cos. plan rein.-con. bridge over Platte River between 2 counties. About $70,000. Address Clk. Hall Co., Grand Island.

Mo., Osceola—See "Streets and Roads."

Okla., Okemah—Co. Comrs. receiving bids about July 1st building 50-ft. rein.-con. bridge and 130 concrete, stone and tile culverts. W. H. Patterson, engr.

BIDS DESIRED

Mass., Lawrence—(Official)—Until July 5 by Mayor and City Council for 2 rein.-con. bridges over Merrimack River. B. H. Davis, 17 Battery Pl., New York City, engr.; advertised in this issue. Noted June 14.

N. J., Camden—(Official)—Until July 9 by F. W. George, co. clk., Court House, for 3 span concrete arch bridge; advertised in this issue.

N. J., New Brunswick—(Official)—Until July 17 by Bd. Comrs., Comrs. Council Chambers, Dist. Court Room, Court House Bldg., Paterson St., concrete arched dam crossing Weston's Mill Pond near pumping station. A. Atkinson, city engr.; advertised in this issue.

N. J., Plainfield—Until July 5 by Bd. Freeholders, Elizabeth for rein.-con. bridge over Cedar Brook on Stelle Ave. J. L. Bauer, co. engr.

N. J., Rahway—Until July 5 by Bd. Freeholders, Elizabeth, for concrete arch bridge over Rahway River. J. L. Bauer, co. engr.

N. J., Westfield—Until July 3 by Bd. Freeholders, Elizabeth, for rein.-con. bridge on Washington St. J. L. Bauer, co. engr.

W. Va., Berkeley Springs—(Official)—Until July 16 by Co. Clk for 3 rein.-con. arch bridges. E. L. Miller, co. engr.

Ill., Kankakee—(Official)—Until July 5 by Comrs. Kankakee and Will Cos., Court House, Kankakee, for rein.-con. arch bridge over Kankakee River between 2 counties; 7 spans 70-ft. long and 2 spans 68 ft. long with 20-ft. roadway. Cost bridge proper, $43,000, culvert, approach, grades, spandrel fill and wearing surface, $7150.

Ia., Waverly—(Official)—Until July 2 by city installing 200,000-gal. rein.-con. reservoir and 1200-ft. 12-in. c.i. pipe, etc. F. A. Lee, clk., advertised in this issue.

Minn., Alexandria—Until July 9th by County, building steel and concrete bridge.

Kan., Kansas City—Until July 15 by City for 700-ft. rein.-con. viaduct approach, Central Ave. at Riverview. About $85,000. H. Payne, clk., Harrington, Howard & Ash, Orear-Leslie Bldg., Kansas City, Mo., engrs.

Neb., Geneva—Until July 17 by County for 2 40-ft. concrete bridges, 16-ft. roadway.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Conn., Bridgeport**—Singer Sewing Machine Co. let contract rein.-con. factory to Aberthaw Constr. Co., 27 School St., Boston. About $150,000.

Pa., Harrisburg—Co. received low bid rein.-con. bridge over Swatara Creek from Strucker Bros. Constr. Co., Russ Bldg., $26,890.

Pa., Johnstown—T. J. Harris, supt. sts. and pub. wks., received low bid for rein.-con. bridge over Little Conemaugh River on Walnut St. from Hackedorn Contr. Co., 1134 Indianapolis Pythian Bldg., $49,767. Noted June 7.

★**Pa., Phila.**—Phila. & Reading Ry. let contract rein.-con. arch over Schuylkill River, to Seeds & Derham, waterproofing and structure to Minwax Waterproofing Corp. Noted June 21.

★**Miss., Charleston**—See "Streets and Roads."

★**O., New Phila.**—(Official)—Co. Comrs. let contract rein.-con. arch bridge over Little Stillwater Creek to M. Wardell-Dennison Bldg., Strasburg, $18,600; beam bridge over Beaver Dam Creek to F. McClain, New Phila., $5000. Noted May 24.

★**Minn., Morgan**—City let contract rein.-con. bridge over Minnesota River to Waddell & Hohley, Minneapolis.

★**Tex., Farwell**—Co. Comrs. let contract building rein.-con. bridges and culverts, also grading on 4-mi. highway to O. C. McErain, Gilmer, $22,780.

Idaho, Boise—See "Streets and Roads."

★**Idaho, Boise**—State Highway Comn. let contract 26 rein.-con. bridges and 11 steel bridges to C. H. Mull, Twin Falls, $24,400 and J. H. Forbes, Caldwell, $14,700.

★**Nev., Las Vegas**—Bd. Educ. let contract rein.-con. high school to Edwards & Wildey Co. About $50,000.

★**Cal., Oakland**—Albers Bros. Milling Co., 332 Pine St., let contract rein.-con. flour mill to Masow & Morrison, Monad Bldg., San Francisco, $180,000.

★**Que., Grand Mere**—Canadian Northern Ry. let contract rein.-con. bridges to J. Gosselin, Ltd., Levis, $50,000.

★**Que., Ste Angele de Laval**—Provincial Government and Municipalities Ste Angele de Laval and Gregorie let contract rein.-con. bridge to N. Guillemette, Three Rivers, $23,000.

STREETS AND ROADS

Proposed Work

N. Y., Niagara Falls—City sold $90,000 bonds to repave Main St. F. S. Parkhurst, city engr.

N. J., Caldwell—Bd. Freeholders, Newark, plan to pave Bloomfield Ave. About $121,500.

N. J., Camden—Council plans to pave Mickle and 9th Sts. also Langham Ave.; sheet asphalt, concrete foundation. W. D. Brown, clk.

N. J., Cedar Grove—Bd. Freeholders, Newark, plan to pave Little Falls Rd. About $57,600.

N. J., Collingswood—Boro plans to pave 5 mi. streets, macadam, and 2 mi. Hadden Ave., Belgian Block, concrete foundation. J. Remington, 6th and Market Sts., Camden, boro. engr..

N. J., Long Branch—City plans to resurface Norwood Ave. About $50,000.

N. J., Newark—City plans to pave portions East and West Peddie and Parkhurst Sts., sheet asphalt on 6-in. concrete foundation. M. R. Sherrard, city engr. Noted May 4.

N. J., Newark—Bd. Freeholders, Newark, plan to pave Central Ave. About $45,000.

N. J., New Brunswick—Bd. Freeholders having plans prepared paving Sect. 3, New Brunswick-Old Bridge turnpike and from Drury's Hill to Main St., South River. A. B. Fox, 137 Smith St., Perth Amboy, co. engr.

N. J., Paterson—Finance Comn. appropriated $35,000 to resurface and improve streets. H. J. Hardes, city engr.

N. J., Salem—County lets contract in August paving 3.6-mi. road, concrete. J. S. Sparks, asst. co. engr.

Pa., Harrisburg—City passed ordinance to pave Hillside and Vineyards Rds., Bellevue Park. M. B. Cowden, city engr.

Pa., Meyersdale—City election July 10 to vote on $14,000 bonds to improve streets and $6000 to extend sewers.

Pa., Pittsburgh—City plans to pave, grade and curb portion Tokio St. R. Swan, city engr.

W. Va., Fayetteville—(Official)—County received no bids grading and draining James River and Kanawha Turnpike, Falls Dist., from Kanawha Co. line to Mountain Cove Dist. line, 14.5 mi., including retaining walls. T. F. Malloy, Landisburg, rd. engr. Noted May 17.

W. Va., Fayetteville—(Official)—County rejected bids building road from Thurmond to Echo Mountain Rd., 1.8 mi., including retaining walls, Sewell Mountain Dist. T. F. Malloy, dist. rd. engr. Noted May 17.

N. C., Clinton—Co. Comrs. voted $25,000 bonds to build roads. J. H. Parker, secy.

S. C., Saluda—County plans to build road from Ridge Spring to Greenwood Co. line. Cost, $44,000; Federal Government to appropriate $22,000 toward project.

Ga., West Point—City voted $20,000 bonds to pave, grade, drain and macadamize streets. J. T. Johnson, mayor. Noted May 10.

Ala., Gadsden—City plans to issue $41,000 bonds to pave portion Walnut St. E. Smith, city engr.

Miss., New Augusta—County issued $200,000 bonds to build roads.

La., Edgard—County voted $180,000 bonds to build roads.

Tenn., Knoxville—City Comrs. soon lets contract resurfacing portion Main, Church, Union and Jackson Aves.; also Central and Gay Sts. J. B. McCalla, city engr. Noted May 31.

O., Canton—City plans to issue $19,000 bonds to improve portion 8th St. and $10,000 bonds to purchase land for opening Belden Ave. N. E. from Tuscarawas St. E to 2nd Et. N. E. E. Sarver, city engr.

O., Cleveland—Bd. Control plans to pave portion East 9th St., cost, $30,000; St. Clair Ave., $69,000. R. Hoffman, city engr.

O., Cleveland—City plans to pave and improve portions East 73rd, East 105th,

Streets and Roads (Continued)

East 133rd, East 106th and West 44th Sts.; also repave portion Broadway Ave. R. Hoffman, city engr.

O., Cleveland—City plans to pave portion Bway. Hill, dressed block stone, cost, $32,090; East 105th St., $12,500; West 44th St., $7100; East 73rd and Wagner Ave., $10,593. R. Hoffman, city engr.

O., Columbus—Council appropriated $75,000 for widening portion North High St. H. Maetzel, city engr.

O., Hamilton—Council plans to build sidewalks, curbs and gutters and install sanitary sewers on Shuler Ave. F. Weaver, city engr.

O., Logan—Boro. receiving bids about July 15 paving, grading and curbing Canal St., involving 1200-ft. brick, stone curbs. About $11,000. R. Bowen, boro. engr.

O., London—Village election July 2 to vote on $45,000 bonds to improve portion North Main and East High Sts. J. Byers, clk. Clark & McCafferty, engrs.

O., Ravenna—County sold $102,000 bonds to improve I. C. H. Rd. No. 60 and No. 18, Sect. V and No. 87, Sect. N. M. J. Kelly, co. aud. Noted May 24.

Ind., Indianapolis—City and Hoosier Motor Club plan to reconstruct Massachusetts Ave. B. J. T. Jeup, city engr., estimates cost of work at $100,000.

Ind., Kendallville—City plans to pave 10 streets.

Ind., Richmond—County to sell $48,000 bonds July 16 to improve Thomas G. Dunbar Highway, Center Twp. L. S. Bowman, aud.

Ill., Chicago—City plans to pave portion Bway., creosote. About $110,000. J. Ericson, city engr.

Ill., Lewistown—County plans to spend $16,000 to build roads. E. F. Motsinger, Canton, co. supt. highways.

Ill., Rockford—Co. Supervs. plan to spend $30,000 to improve Cedarville Rd.

Ill., Rock Island—Bd. Local Improv. approved plans to pave portion 11th St. About $13,024. W. Treichler, city engr.

Wis., Parker—City soon lets contract paving various streets, asphalt. About $35,000. E. E. Parker, city engr.

Wis., Wauwatosa—Council voted to issue $15,000 bonds to improve streets.

Ia., Mason City—(Official)—City receiving bids about July 20 paving 3 mi. road from Mason City to Clear Lake. About $65,000. Address A. M. Grimm, Clear Lake. Noted June 14.

Minn., St. Paul—County plans to spend $30,000 to improve roads and $6000 to oil same; plans include resurfacing 1 mi. North St. Paul Rd., 2 mi. Edgerton, 2 mi. Brighton Rds., ½ mi. Lexington Ave., 1½ mi. Rice St.

Kan., Hiawatha—Co. Comrs. plan to pave 24 mi. roads in county along Pikes Peak Ocean to Ocean Highway.

Kan., Salina—Council voted to issue $41,500 bonds to pave and gutter portion Phillips, 12th, 10th, Walnut and Bishop Sts. P. G. Wakenhut, city engr.

Kan., Topeka—City plans to spend $10,000 for paving 30 blocks with asphalt. A. R. Young, city engr.

Mont., Billings—City receiving bids about Aug. 1, paving 37,000 sq.yd. streets, concrete, asphaltic concrete or bitulithic. E. M. Sneckonberger, city engr.

Mont., Butte—Council created Special Improv. Dists. Nos. 231 and 232, work in Dist. 231 involves repaving Park St., guttering, etc., cost, $18,000; Dist. 232 involves concrete walks, grading, sewers, etc. $25,000. J. J. Armstrong, city engr.

Mo., Miami—County election July 12 to vote on $40,000 bonds to build roads.

Mo., Osceola—Bd. Supervs. plan to issue $400,000 bonds to grade roads and build bridges on State roads.

Tex., Bandera—State Attorney General's Dept. approved $22,000 bond issue to build roads, County Rd. Dist. No. 1.

Tex., Bay City—State Attorney General's Dept. approved $20,000 bond issue to build roads, County Rd. Dist. No. 10.

Tex., Waco—See "Sewers."

Okla., Ada—County election July 14 to vote on $650,000 bonds to build roads and bridge over South Canadian River. Noted June 21.

Okla., Alex—City defeated $28,000 bonds to build roads and bridges. Noted May 10.

Okla., Antlers—County election July 10 to vote on bonds to build roads and bridges.

Okla., Frederick—See "Sewers."

Okla., Miami—County election July 12 to vote on $400,000 bonds to build rock and concrete roads. Noted June 7.

Okla., Prague—County defeated $25,000 bonds to build roads, Creek Twp. Noted May 24.

Okla., Stigler—County plans election to vote on $20,000 bonds to build roads, Center Twp.

Wash., Everett—H. Mumm, Jr., city engr., estimated cost paving portion Everett Ave. at $18,905.

Wash., North Yakima—County soon lets contract improving 3-mi. highway between Union Gap and Parker, asphaltic concrete, bitulithic, etc. About $28,000.

Wash., Pullman—County soon receives bids paving 8000 sq.yd. and extending water system College Park addition.

Wash., Tacoma—City plans to repave portion Pacific Ave., bitulithic. About $13,391. W. C. Raleigh, city engr.

Ore., Astoria—State Highway Comn., Salem, plans to spend $34,000 to improve Columbia River Highway, Clatsop County.

Cal., Santa Ana—Bd. Superv. soon lets contract paving and building concrete and timber culverts in Rd. Dist. No. 2. About $64,850. W. J. Redshaw, Fullerton, engr.

Que., Quebec—City plans to improve roads. About $50,000. W. D. Baillairge, city engr.

Que., Ste. Genevieve de Batiscan—Council plans to gravel roads. About $30,000. T. Trudel, clk. and secy.

Man., Portage La Prairie—City plans to spend $300,000 bonds to build roads. R. Pride, engr.

Man., Swan River—City plans to spend $50,000 to build roads. J. Armstrong, clk.

BIDS DESIRED

N. Y., Olean—(Official)—Until July 12 by E. E. Allen, supt. sts., paving portion 9th St., brick; advertised in this issue.

N. Y., St. Johnsville—(Official)—Until July 6 by Bd. Trustees for 12,000 sq. yd. bituminous pavement on concrete foundation and about 2000 ft. 18- and 20-in. storm sewers on North Division and Center Sts. M. Vrooman, 101 North Main St., Gloversville, engr.; advertised in this issue.

N. Y., Tarrytown—(Official)—Until July 5 by Bd. Trustees, Corp. Rooms, Main St., for paving and improving Bway. J. W. Cole, village clk.; advertised in this issue.

N. J., Belvidere—(Official)—Until July 18 by Bd. Freholders for resurfacing 5.527 mi. road. H. W. Vetter, co. clk.; advertised in this issue.

N. J., Flemington—Until July 19 by Bd. Freeholders, paving 2 mi. Bristol-West Portal Rd.

N. J., Jersey City—Until July 3 by Bd. Comrs., paving portion Germania Ave., Belgian block. C. A. Van Keuren, city engr.

N. J., Mt. Holly—(Official)—Until July 11 by Bd. Freeholders for improving Moorestown-Camden Pike, Chester Twp. J. Logan, 11 Main St., co. engr., advertised in this issue.

N. J., Mt. Holly—(Official)—Until July 11 by Bd. Freeholders for improving Pemberton-Lewistown Rd., Pemberton Twp. J. Logan, 11 Main St., co. engr. advertised in this issue. Noted June 14.

N. J., Mt. Holly—(Official)—Until July 11 by Bd. Freeholders for improving Jobstown Pike, Northampton, Easthampton and Springfield Twps. J. Logan, 11 Main St., co. engr., advertised in this issue.

N. J. Newark—(Official)—Until July 12 by Bd. Freeholders, improving Little Falls Rd., Cedar Grove Twp. W. Cardwell, chn. Noted May 24.

N. J., Trenton—(Official)—Until July 3 by Bd. Freeholders, building Sect. 3, River Rd., Hopewell Twp., bituminous concrete, macadam foundation, involving 2874 sq.yd. pavement and foundation. F. McCullough, clk.

N. J., West New York—Until July 10 by C. Swenson, town clk., for paving Bergenline Ave. About $25,000. Noted May 4.

Pennsylvania—(Official)—Until July 24 by State Highway Comn., Harrisburg, for building roads in Armstrong, Beaver and McKean Cos., vitr. block and waterbound macadam. F. B. Black, comr.

Pa., Schuylkill Haven—Until July 2 by Boro. paving and curbing 10,000-sq.yd. on Canal, Main and St. John Sts., brick and concrete. G. W. Butz, 205 Centre Ave., boro. engr.

Pa., Washington—(Official)—Until July 11 by T. J. Underwood, co. controller, resurfacing 4800 ft. Taylorstown Rd. and 1 mi. Burgettstown-South Rd.

Md., Cumberland—(Official)—Until June 30 by Mayor and City Council paving 7 streets involving 18,000 sq.yd. concrete paving, 9000 lin.ft. concrete curb. R. L. Rizer, city engr. Noted June 14.

Md., Rockville—(Official)—Until July 10 by B. E. Berry, co. clk., for State Aid highway; advertised in this issue.

W. Va., Broad Oaks—(Clarksburg P. O.)—Until July 9 by Council paving Howard and Buckhannon Ave., involving 4500 sq.yd. pavement, 4000 lin.ft. concrete curb. J. N. Craddock, mayor. Noted May 24.

Ala., Selma—Until July 7 by City paving 25,000-sq.yd. Alabama and Selma Aves., asphalt, asphaltic concrete, bitulithic or brick. W. R. Crisman, city engr.

O., Ashtabula—(Official)—Until July 2 by Co. Comrs. completing Trumbull-Geneva Rd., brick. B. E. Brainard, clk.

O., Cincinnati—Until July 13 by F. E. Wesselmann, clk. co. comrs., improving portion Cliff Rd.

O., East Liverpool—Until July 2 by T. Doherty, dir. pub. ser., for paving Penn Ave. and Elizabeth and Harvey Sts. from Dry Run bridge to Pennsylvania state line. J. C. Kelly, city engr.

O., East View—Until July 9 by C. F. Vlk village clk., 3331 East 145th St., paving Lee Rd. F. A. Pease Engr. Co., 804 Marshall Bldg., Cleveland, engrs.

Indiana—By Co. Comrs. for building roads as follows: June 30: Terre Haute, gravel road, Fayette Twp., T. Ferguson, aud. July 2: Brazil, stone and gravel road on line Posey and Perry Twps. W. O. Graeser, aud. Rockport, rock roads, Center Twp., J. F. Stocking, aud. Angola, road in Pleasant Twp., I. W. Pence, aud. Nashville, gravel road, Johnson Twp., stone, gravel and concrete road, Brown Twp., O. Morrison, aud. Rushville, 15,800 ft. macadam road, Union Twp., W. H. McMillan, aud. July 3: Goshen, gravel road, Osolo Twp., A. R. Bemenderfer, aud. Bedford, concrete or macadamized road, Shawswick Twp., E. W. Edwards, aud. July 3: Monticello, 2 crushed stone roads Monon Twp., gravel road, Prairie Twp., A. G. Fisher, aud. July 3: Washington, pike road, Washington Twp., J. G. Clark, aud. Wasbach, 2 rocomac roads, Chester Twp., F. P. Kircher, aud. Bloomfield, gravel roads, Stockton and Fairfield Twps., G. E. Kidd, aud. Lebanon, gravel road, Jackson and Jefferson Twps., C. Goodwin, aud. Albion, brick road, Perry Twp., G. A. Young, aud. Greenfield, gravel and brick roads, Center Vernon, Brandywine, Sugar Creek Twps., H. J. Rhue, aud. Rensselaer, road in Marion Twp., 2 in Barkley Twps., J. P. Hammond, aud. Madison, crushed stone roads, Republic and Madison Twps., C. S. Dibler, aud. July 7: Noblesville, roads in Washington and White River Twps., W. O. Horton, aud.

Ind., Delphi—(Official)—Until July 3rd by H. D. Good, co. aud., grading, graveling or macadamizing, draining and otherwise improving Edward C. Quinn Rd., Democrat Twp.

Ind., Fowler—(Official)—Until July 2 by Co. Comrs. grading, paving and graveling, George H. Geary, et. al., brick and gravel road, Hickory Grove Twp. W. Mankey, aud.

Ind., Greenville—(Official)—Until July 3 by Co. Comrs. for improving 3 mi. Alonzo Tyner Rd., semimonolithic brick and C. P. T. Merrill Rd., Vernon Twp., tar-bound macadam and monolithic brick. C. Boone, co. engr.

Ill., Glencoe—Until July 5 by city for paving Glencoe Rd., 4800 sq.yd. brick on 2-in. sand-cement cushion filled with cement grout, concrete curb and crushed stone and screening to level up present foundation. Windes & Marsh, Winnetka, engrs.

Ill., Winnetka—Until July 3 by city for paving Sheridan Rd., 35,500 sq.yd. 2-course rein.-con. with integral curb, 11,755 cu.yd. grading and 98 catch basins. Windes & Marsh, Winnetka, engrs.

Ark., Newport—Until July 2 by G. Jones, Newport, for constructing 10 mi. road from Newport to Grubbs involving 97,000 sq.yd. gravel. Noted May 31.

Ark., Pine Bluff—Until July 14 by Comrs. Rd. Improv. Dist. No. 19, building 18½-mi. gravel roads, bituminous carpet top. L. E. Cheek, chn.

Utah, Salt Lake City—(Official)—Until July 3 by G. Snow, city recdr., paving portion Center, 1st W, 4th N, and 5th N Sts. S. Q. Cannon, city engr. Noted June 21.

Wash., Kalama—Until July 2 by Co. Comrs. clearing, grading, draining and surfacing with gravel and building bridges on Permanent Highway No. 3. F. C. Cramer, co. engr.

Streets and Roads (Continued)

Wash., South Bend—Until July 6 by S. B. Henry, co. engr., paving, clearing, grading and draining 1-mi. Natl. Park Highway.

California—Until July 16 by State Highway Comm., Sacramento, building and grading 8-mi. road between Willits and Arnold, Mendocino Co., 10-mi. between Seeley ranch and point near Action; 8-mi. between Action and Palmdale, Los Angeles Co.

Cal., Ventura—Until July 5 by Bd. Superv. for grading and building 4-in. concrete pavements and concrete and corrugated iron culverts on 14.3 mi. Divs. 0 and 10, Moorpark to Dillon Rd., also 4.65 mi. on Div. 15, Hueneme Rd. J. B. McCloskey, co. clk. C. W. Pettit, co. engr.

Cal., Ventura—Until July 6 by Bd. Superv. grading and building 4-in. concrete pavements and concrete and corrugated iron culverts on 7.54 mi. of Div. 6, Sect. 2, LaCrosse to Nordhoff Rd., also 6.01 mi. on Div. 4, Piru to county line. J. B. McCloskey, co. clk. C. W. Pettit, co. engr.

PRICES AND CONTRACTS AWARDED

Mass., Boston—Bd. Pub. Wks. received low bids paving Seaver St., (a) asphalt, (b) topeka, (c) bitulithic, from Central Constr. Co., 288 Southampton St., Roxbury, (a) $34,756, (b) $35,301, Warren Bros., 142 Berkley St., (a) $38,188, (c) $39,169, Coleman Bros., Pearl St., Chelsea, (a) $40,268, (b) $40,050, (c) $41,902; Hugh Nawn Contr. Co., 82 Savin St., (b) $43,680, (c) $45,315.

★**Conn., New Britain**—City let contract paving Stanley St., concrete, to American Hassam Co., $14,541.

★**N. Y., Syracuse**—City let contract paving portion Clarendon St. to C. T. Hookway Constr. Co., 106 Bastble Blk., $18,532; Cherry St. to G. B. Dickerson, Union Bldg., $4000.

N. Y., Troy—Bd. Contract and Supply received low bids paving portion Park Ave., vitr. brick from J. A. Kelly, $35,535; T. F. Grattan Constr. Co., $35,885.

★**N. J., Asbury Park**—City let contract paving Main St., warrenite, to Standard Bitulithic Co., 50 Church St., New York City, $23,098. Noted June 21.

★**N. J., Belvidere**—Bd. Freeholders let contract building Washington-Buttsville Rd. to Salmon Bros., 526 Elm St., Arlington, $69,306. Noted June 7.

★**N. J., Clementon**—City let contract building 14,000 lin.ft. sidewalks, curbs and gutters to A. Stutzer, Collingswood.

★**N. J., Elizabeth**—Bd. Pub. Wks. let contract paving Market St. to Uvalde Asphalt Paving Co., 2 Greene St., $30,034. Noted June 14.

★**N. J., Glen Ridge**—Bd. Freeholders, Newark, let contract paving Ridgewood Ave. to Franklin Contr. Co., 52 Vanderbilt Ave., New York City, $32,000. Noted June 7.

★**N. J., Irvington**—Bd. Freeholders, Newark, let contract paving Sanford Ave. to Standard Bitulithic Co., Essex Bldg., Newark, $16,898; Grove St. to T. H. Riddle, 102 Church St., New Brunswick, $100,351. Noted June 7.

★**N. J., Lakewood**—Town let contract paving portion Lexington, 4th, East 4th and Clover Sts. to J. F. Burke Co., 718 Monroe St., Plainfield, $49,050. Noted June 14.

★**N. J., Montclair**—Bd. Freeholders, Newark, let contract paving Grove St. and Upper Montclair Ave. to Osborn & Marseills, Bellevue Ave., Upper Montclair, $78,267 and $26,803 respectively. Noted June 7.

N. J., Morristown—Bd. Freeholders received low bid rebuilding Madison Ave. from Gary Constr. Co., Morristown, $27,635.

N. J., Newark—Bd. Pub. Wks. received low bids paving Meeker Ave., asphalt, from Municipal Asphalt Co., $1.75 sq.yd.; Standard Bitulithic Co., 31 Clinton St., $1.83; Northern Constr. Co., 665 Broad St., $1.88; J. T. Harrop, Garfield, $2.00. Noted June 14.

★**N. J., Paterson**—City let contract paving Water and Fulton Sts. to P. Kramer, 954 Madison Ave., $13,176 and $7646, respectively; Dale Ave. to L. Cramer, 99 Ward St., $11,463.

★**N. J., Perth Amboy**—City and Woodbridge Twp. let contract paving Florida Grove Rd., to Liddle & Pfeiffer, 137 New Brunswick Ave., $20,808.

★**N. J., Washington**—Bd. Freeholders let contract road from Washington to Oxford to Salmon Bros., 526 Elm St., Arlington, $69,305.

★**Pa., Chester**—City let contract paving various streets to D. E. O'Connell & Son, London Grove Twp., at $2.15 per sq.yd.

★**Pa., Geistown**—County let contract Geistown Elton Rd., concrete to J. L. Elder & Son, Ebensburg, $23,345.

★**Pa., Norristown**—County let contract building 5-mi. Ridge Pike, concrete, to Ambler Davis Co., Harrison Bldg., Phila.

★**Pa., Oil City**—City let contract paving School St. and Linden alley to Hinderliter & Pierce.

★**Pa., Wilkinsburg**—Boro. let contract paving, grading, curbing and installing storm and sanitary sewers to J. E. Welland Co., Vandergrift Bldg., and M. O. Herron Co., East 1st and McKean Sts., both of Pittsburgh.

★**Md., Baltimore**—City let contract paving 33rd St., 9300 sq.yd. sheet asphalt, to F. B. Beasman & Co., 2307 Becks Lane, $34,728; Abell and Ellerslie Aves., 11,500 sq.yd. sheet asphalt to P. Flanigan & Sons, Harford Rd., $41,530. Work to be done under Contract No. 156.

Md., Baltimore—City received low bid paving alleys Contract No. 39, from Potomac Eng. & Contr. Co., 300 Law Bldg., $24,403.

★**Va., Covington**—City let contract paving 50,000 yds. asphalt, 25,000 ft. concrete curb and gutter to Central Constr. & Supply Co., 7th and Emerald Sts., Harrisburg, Pa. $140,000. Noted May 24.

★**Ala., Linden**—Co. Comrs. let contract repairing 5-mi. gravel road and building 2-mi. extension to same to Nixon-Smith Constr. Co., Montgomery. Noted May 31.

★**Ala., Troy**—City let contract 29,500 sq.yd. wire cut lug brick pavement to Southern Clay Mfg. Co., Jones Bldg., Chattanooga, $75,000. Noted May 31.

★**Miss., Charleston**—County let contract grading 95,000 yd. and building rein.-con. culverts and bridges to C. F. Evans, Peabody Hotel, Memphis, $90,000.

★**Miss., Hattiesburg**—County let contract improving 45.8 mi. on Hattiesburg-Richton Rd., Hattiesburg-Eatonville Rd., Hattiesburg-Brooklyn Rd. and Brooklyn Bond Rd. to Central Alabama Constr. Co., Wetumpka, Ala., $91,000. Noted May 31.

★**La., De Ridder**—County let contract building 155-mi. road to N. A. Dawson, 801 Gunter Bldg., San Antonio, Tex., $257,447. Noted May 17.

★**Tenn., Johnson City**—City let contract curbing, guttering and paving 25,000-sq.yd., also installing sewers to Municipal Paving & Contr. Co., Greenville. Noted May 24.

★**Ky., Owensboro**—City let contract resurfacing 35,000-sq.yd. macadam streets with bituminous concrete to Andrews Asphalt Contr. Co., Hamilton, $46,291. Noted May 17.

★**O., Akron**—City let contract paving South Main St. to Columbus Asphalt Paving Co., $60,747.

★**O., Bowling Green**—County let contract building Caskie Rd. to Gray Bros., $61,805. Noted May 10.

★**O., Cleveland**—Bd. Control let contract paving portion East 113th St. to A. M. Pejsa Paving Co., 2359 East 93rd St., $13,790; West 66th St. to Poehl Bros., West 25th and Lorain Sts., $4425.

★**O., Dayton**—County let contract paving 2-mi. Wolf Creek Pike, brick to Swank Engr. Co., $45,350. Noted May 31.

★**O., Defiance**—Co. Comrs. let contract paving Stever Rd. to T. B. Putman, Antwerp, $30,000.

O., Fremont—City received low bids improving portion North Front St. from Modern Constr. Co., Fremont, Metropolitan brick, mastic filler, $26,000; asphalt filler, $28,000; cement filler, $26,745; Lincoln brick mastic filler, $26,000. Noted June 14.

★**O., Jefferson**—County let contract 5¼ mi. 10-ft. brick roads from Kingsville to Sheffield Center to T. P. Fitzgerald, $120,632.

O., Marietta—County received low bids building road from Belpre Bridge to Dana canning factory from Straw & Huber, Paulding, $21,542 and S. A. Palmer, Marietta, $21,623.

★**O., Orrville**—County let contract paving 1¼-mi. Burton City Rd., waterbound macadam, to Lee Griggs & Anderson, $20,800.

O., Wooster—Co. Comrs. received low bids paving Wooster-Burbank Rd. from McGary & Stowe, Akron, $32,340, brick; J. C. Devine, Alliance $29,214; Lee, Griggs & Anderson, $29,031, macadam. Noted May 24.

★**Ind., Bicknell**—City let contract paving 20,000 lin.ft. sidewalks to V. Martin, T. Dugger and H. Dobbs, $20,000.

★**Ind., Indianapolis**—(Official)—City let contract paving Ft. Harrison Blvd. to Northern Constr. Co., Elkhart, $137,000.

★**Ind., Vincennes**—County let contract paving Main St. to S. R. Adams & Co., $48,396.

★**Illinois**—Street Highway Comn., Springfield, let contract concrete road between Bartonville and Tuscarora to Canterbury Bros., Peoria, $30,287.

★**Illinois**—State Highway Comn., Springfield, let contract building roads, Sect. 10, Jackson Co. to Bland & Fitzgerald, $11,968; Sect. E. De Kalb Co., and Ford Co. to Pub. Ser. Constr. Co., $19,576 and $9341 respectively.

Ill., Moline—City received low bids repaving 5th Ave. from D. J. Ryan Constr. Co., Davenport, Ia., $20,188.

★**Ill., Moline**—City let contract grading 19th St. to Littig Constr. Co., 52 1st Natl. Bank Bldg., $10,492.

Ill., Moline—See "Sewers."

★**Ill., Pekin**—Bd. Local Improv. let contract paving 2nd St., involving 11,290-yd. monolithic brick, depressed concrete curb, to Jansen & Schaffer.

★**Ia., Clarinda**—City let contract paving 17th, 14th, Clark and Mains Sts. to J. S. McLaughlin & Son, Red Oak.

★**Mo., Caruthersville**—City let contract paving 32,000 sq.yd. streets, tarvia, to J. H. Hinerman, Springfield, $70,000.

Mo., St. Louis—Bids were received by Bd. Pub. Ser., June 22, for improving portions (a) 15th St., wood block, (b) Partridge Ave., asphalt on 6-in. concrete base, concrete curb, vitrified brick gutters and alley apron, (c) Arsenal St., asphalt on concrete base, (d) Hydraulic Ave., vitrified brick on 5-in. concrete base, granite curb, as follows: Eyermann Constr. Co., 1216 Grand Ave., (a) $7918, (d) $9895; Perkinson Bros. Constr. Co., Grand and Carter Sts., (a) $7861, (d) $9295; Skrainka Constr. Co., Security Bldg., (a) $7648; Independent Quarry and Constr. Co., (b) $48,414, (c) $14,415; Trinidad Asphalt Mfg. Co., Guaranty Trust Bldg., (b) $48,284, (c) $15,095; Moreno Burkham Constr. Co., Syndicate Trust Bldg., (b) $44,791; F. P. McCormick, (c) $14,559, (d) $10,382.

★**Ark., Clarksville**—City let contract paving various streets including Court Sq. to Bell & Walker Asphalt Co., Dallas, $33,000.

★**Ark., Pine Bluffs**—Rd. Improv. Dist. No. 14 let contract 40 mi. bituminous macadam roads to J. A. Perdue & Co., Pine Bluff. Noted June 7.

Okla., Okmulgee—City received low bids paving Muskogee Ave. from Barrett Bros., Kansas City, Mo., $17,838; and Park-Moran Co., $18,223.

Idaho—State Highway Comn., Boise, received low bids road and bridge work as follows: Grading 33 mi. in Washington Co., S. C. Comerford, Boise, $90,000; 26 concrete culverts and bridges between Weiser and Adams Co. line, J. H. Forbes, Caldwell, $14,704; 12 steel bridges, Missouri Valley Bridge and Iron Co., Boise, $40,260; 3 steel bridges in Madison Co., Yellowstone Park Highway, H. W. Perham, St. Anthony, $16,500; grading and surfacing 20 mi. Idaho & Pacific Highway, Mt. Home Highway Dist., Elmore Co., W. L. Blackwood, Mt. Home, $45,300 for grading; S. C. Comerford bid $25,250 for surfacing with gravel.

★**Ariz., Tucson**—City let contract paving, curbing, guttering portion 6th, 10th and Pennington Sts. to Warren Bros. Co., 204 Noll Bldg., Phoenix, $60,000.

★**Wash., Bellingham**—Co. Comrs. let contract paving North River Rd. to K. Sauset, 711 Caroline St., $108,315.

Wash., Everett—Co. Comrs. received low bid hard surfacing highway No. 18 and 29 from Kaiser Paving Co., Everett, $29,380. Noted May 17.

Wash., Port Angeles—City received low bids building I St. from Sloane Bros., Seattle, $44,425; E. Anderson & Co., Seattle, $48,753.

★**Wash., Wapato**—City let contract paving streets with bitulithic and concrete sidewalks to Washington Paving Co., L. C. Smith Bldg., Seattle, $24,648.

Oregon—State Highway Comn., Salem, received low bids building 1-mi. concrete highway near Sheridan from Montague O'Reilly Co., Portland, $17,391; V. R. Dennison Constr. Co., McMinnville, $19,148.

★**Cal., Los Angeles**—City let contract paving Hoover St., asphalt, to G. H. Oswald, 405 O. T. Johnson Bldg., $20,515.

Streets and Roads (Continued)

★**Cal., Los Angeles**—City let contract paving 117,113 sq.ft. St. Andrews Pl. to G. R. Curtis, 2440 East 26th St., $17,895.

★**Cal., Mill Valley**—Town Trustees let contract paving Miller, Blithedale and Throckmorton Aves. to Clark & Henery Constr. Co., 1st Savings Bank Bldg., Oakland, $102,000.

★**Cal., Oakland**—City let contract improving Maybelle Ave. to B. Ransome, Grand Ave. and Harrison St.

★**Cal., Redding**—City let contract paving various streets to Chico Constr. Co., Waterland & Breslauer Bldg., Chico, $50,000.

★**Cal., Visalia**—County let contract 9.9-mi. from Lindsay to Porterville to Concrete Pipe & Constr. Co., Porterville, $104,554; 14.04-mi. from North Dinuba to Sultana and Cutler to Rodger Bros., Hibernia Bldg., San Francisco, $154,319; 7.79-mi. from North Visalia to Visalia to O. & C. Constr. Co., Los Angeles, $85,768. Noted June 7.

★**Cal., Watts**—City let contract 94,288 sq.ft. Topeka surfacing, 4012 lin.ft. cement curb, 12,167 sq.ft. cement sidewalks, 2042 lin.ft. 8-in. vitr. pipe sewer, etc., in Main St., to T. H. Heinauer, Watts, $26,534. Noted June 7.

★**Que., St. Pierre**—Council let contract building gravel roads to G. Madden, 822 St. Valier St., Quebec, $32,500.

★**Ont., Leaside**—Provincial Government let contract building 3 mi. asphaltic roads to Foley & Gleason, Ottawa.

★**Ont., Sandwich**—Council let contract paving streets, rein.-con., to Chick Contr. Co., McDougall St., Windsor, $14,600.

RAILWAYS—STEAM & ELECTRIC

Proposed Work

Maryland—Western Maryland Ry. plans branch to Curtis Bay and Marley Neck industrial sections. H. R. Pratt, Continental Trust Bldg., Baltimore, ch. engr.

Louisiana—Elysian Fields Ave. Comn. plans to renew campaign for electric line from New Orleans to Milneburg. L. H. Burns, Canal Bank Bldg., New Orleans, interested.

Illinois—Danville, Crescent & Kankakee Traction Co. plans to revive projejct to construct line from Danville to Kankakee, via Potomac, Ellis, Rankin, Cissna Park and Crescent; almost all right-of-way has been secured. W. R. Nightingale, Crescent City, interested.

North Dakota—Dickinson, Lefor & New Leipzig R.R. has had surveys made by Black & Griffin, engrs., Mandan, for steam railroad from Dickinson to New Leipzig, about 75 mi. A. E. Lefor, Lefor, pres.

California—Western Pacific Ry. will build line from Decoto near Niles into San Jose, about 20 mi., within next year. T. J. Wyche, Mills Bldg., San Francisco, ch. engr.

Ontario—Canadian Pacific Ry. plans to spend $75,000 for reballasting its line between London and Windsor; also $185,000 to construct sidings, bridges, etc. A. Purvis, London, supt.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Washington**—Northern Pacific Ry. let contract to Clifton, Applegate & Toole, Hutton Bldg., Spokane, for branch line from Weikel, about 7 mi. Noted Apr. 26.

EXCAVATION AND DREDGING

Proposed Work

N. J., Summit — Drainage — Common Council plans to install drainage system in East Summit. About $100,000. R. Franklin, mayor.

Ga., Norcross—Drainage—Sweetwater D. D., Gwinnett Co., will build 18 mi. canals to drain bottom lands. Address J. R. Cain, Norcross, R. F. D. No. 1.

Fla., Jupiter—Drainage—Jupiter D. D., recently organized, plans to reclaim 140,000 acres of land; project involves 24 mi. canals. About $175,000. J. M. Burgueleres, Jupiter, chn. com.

Fla., Tarpon Springs—Canal—Barton & Robinson, engrs., Tarpon Springs, preparing plans canal from Bayou at Tarpon Springs to and through Lake Butler, thence across to Safety Harbor and through Old Tampa Bay to Tampa, about 24-mi. Plans include 8-mi. dredging.

Ia., Sac City—Drainage—Buena Vista, Calhoun and Pocahontas Cos. soon receives bids Cedar Creek Drain, about $5,776,000 yd. open ditch work. About $629,000.

Minn., Crookston—Ditch Work—County received no bids repairing County Ditches Nos. 20, 51 and 53. H. J. Welte, co. aud. Noted May 31.

Minn., Montevideo—(Official)—Ditches—County sold $40,000 bonds to construct County Ditches Nos. 21, 23, 27 and 33. J. J. Steenes, co. aud. Noted June 14.

Minn., Moorhead—Drainage—Co. Comrs. authorized $125,000 bond issue for drainage and ditching work.

Ariz., Yuma—Irrigation—Yuma-Mesa Irrigation Co. has been organized by W. Kryger, E. A. Freeman and C. W. Ingham of Arizona-Mexico Land Co., Yuma, and associates to construct irrigation system to water 17,000 acres of land. Company plans to install 3000 hp. pumping plant north of Yuma to lift water from Colorado River and build reservoir on mesa.

Wash., Prosser — Irrigation — Horse Heaven Irrigation Dist. on June 16 voted $18,000,000 bonds to complete system. Project involves 150 mi. main canal, cost, $8,000,000; 2 power and pumping plants, $500,000; 6 laterals, $1,979,000, to water about 215,000 acres at $45 per acre and 300,000 acres, including reservoirs, at $87 per acre. Present bond issue does not provide for reservoirs as these structures were estimated to cost $8,833,000. R. H. Thomson, Alaska Bldg., Seattle, O. Laurgaard, Rv. Exchange Bldg., Portland, and A. J. Wiley, Butte, Mont., engrs. Noted May 10.

Wash., Yakima—(Official)—Drainage—Co. rejected bids opened June 16 for drainage system in Drainage Improv. Dist No. 29. Noted June 14.

Ore., Grants Pass — Irrigation — Grants Pass Irrigation Dist. has had plans prepared for district covering 5250 acres, involving 35 mi. main canal, laterals, flumes, tunnels, etc. G. A. Hamilton, secy.

Cal., Manteca—(Official) — Dams — Bd. Dirs., South San Joaquin Irrigation Dist., rejected bids auxiliary dams at Woodward reservoir. Noted June 7.

Cal., Modesto—Modesto Irrigation Dist. soon lets contract enlarging and improving main canal. About $254,000 available. F. C. Herman, ch. engr.

Cal., Riverside—Irrigation—Twin Buttes Water Co., recently incorporated with $750,000 capital stock, will irrigate tract of land below Arlington. W. J. Hole, Real Estate Trust and Savings Bldg., Los Angeles, interested.

BIDS DESIRED

Miss., Greenville—(Official)—Drainage—Until July 19 by O. C. Kulicka, secy. co. bd. drainage comrs., for about 4,700,000 cu.yd. earth excavation for drainage channels in Black Bayou D. D. Morgan Engr. Co., 608-614 Goodwin Institute Bldg., Memphis, engrs.

Ill., Hanna—(Official)—Dredging—Until July 16 by Comrs. Lower Green River Special D. D. at residence of B. Snodgrass, R. R. No. 2, Geneseo; advertised in this issue.

Ia., Boone—Drainage—Until July 12 by Joint Bd. Supervs. Boone and Story Cos. for Boone-Story Joint Drain Sub. No. 1, involving 35,000-ft. tile. J. R. Curry, aud. Boone Co.

Minn., Cambridge—Ditch—Until July 14 by G. C. Smith, co. aud., for County Ditch No. 16, including 91,492 cu.yd. excavation.

Minn., Redwood Falls—Ditches—Until July 12 by L. P. Larson, co. aud., for County Ditch No. 12, cost, $10,444; County Ditches Nos. 43, 44 and 45, $44,943.

S. D., Madison—Drains—Until July 12 by Bd. Co. Comrs. for tile drain in connection with Lake Moody Co., D.D. No. 1, involving 240,550-lin.ft. tile various sizes.

S. D., Madison—Ditch—Until July 12 by Co. Comrs. for Lake Co. Ditch No. 11, involving 19,100-lin.ft. tile various sizes.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**La., Youngsville**—Drainage — Comrs., Youngsville D.D. let contract 500,000-cu.yd. earth removal to H. S. Clark, Abbeville. Noted May 17.

★**Ind., Petersburg**—(Official)—Ditch—J. H. Chappell, atty., Petersburg, let contract ditch in Flat Creek D. D. to Cache Valley Constr. Co., Karnak, Ill., $31,695. Noted May 24.

Ill., Beardstown — (Official) — Drainage Comrs. Coal Creek Drainage and Levee Dist. received low bids drainage ditches from M. J. D'Meara & Son, 22.45c.; A. Bennema, 24.75c.; A. V. Wills & Sons, 28c. Noted June 7.

★**Ia., Algona**—Drainage—County let contracts drainage work as follows: Emmet and Kossuth Joint D.D. No. 5, open work to C. Benson, Armstrong, tile to J. J. Dooley, Algona; D.D. No. 133, tile to Welps Cement Products Co., Bancroft, Ia.; Winnebago and Kosuth Joint D.D. 68-136, open work to Horton & Mosley, 150 South Beardstown St., Chicago, tile to G. H. Erickson, Swea City, Ia. Noted May 31.

★**Ia., Charles City**—Ditch—County let contracts D.D. No. 3 as follows: Labor on Sects. 2 and 3 to C. Godfredson, Grafton; Sects. 4, 5, 6 and 7 to Nordstrom & Adams, Algona; open ditch (Sect. 1) to C. L. Hanson Charles City, tile to Cement Products Co., Mason City. Noted May 31.

★**Min., Glenwood**—Ditch — County let contract County Ditch No. 17 to P. B. Jennings, Wada, open work; and N. W. Drain Tile Co., Starbuck, tile. Total cost, $15,437.

★**Neb., Fremont**—Ditch—County let contract Blomendahl Ditch to A. D. Sears, Fremont. Noted May 17.

★**Mo., Rockport**—(Official)—Drainage—North Nishnabotna D.D. let contract 2-mi. drainage ditch to C. Thompson, Omaha, Neb., 18c. per yd. Noted June 7.

★**Ark., Lonoke**—Drainage—Comrs. Bayou Meto D. D. No. Q let contract diggings 70 mi. canals to drain 71,000 acres land to R. H. and G. R. McWilliams, Exchange Bldg., Memphis, about $344,000. Noted May 17.

★**Wash., Enumclaw**—Drainage — Comrs. D.D. No. 6, New York Bl., Seattle, let contract system to D. A. Foley & Co., Aitken, Minn. (Seattle office, Hotel Butler) $35,000. Noted June 21.

INDUSTRIAL WORKS

Proposed Work

Mass., Fall River — See "Structural Steel."

Mass., New Bedford — Fairpoint Co., Prospect St., plans 4-story, 100 x 200-ft. addition.

Conn., Bridgeport—See "Reinforced Concrete."

Conn., Bridgeport — Connecticut Auto Mfg. Co. having plans prepared for 3-story, 75 x 150-ft. brick and steel auto sales building on Main St. M. E. Walsh & Co., Connecticut Natl. Bank Bldg., archt. Noted May 24.

Conn., Kensington—Buckley Bakery & Macaroni Co., Hartford, plans to build large factory. W. P. Crabtree, archt., 272 Main St., Hartford, soon receives bids.

Conn., Stamford—W. J. O'Brien, 768 Main St., plans 4-story, brick and steel plant, South and Willow Sts. About $75,000.

N. Y., Brooklyn—Fidelity Metal Co., 196 Diamond St., having plans prepared for 3-story, 75 x 100-ft. plant.

N. Y., Buffalo—American Radiator Co. had plans prepared extension to foundry on Elmwood Ave. About $105,000.

N. Y., Buffalo—Donner Steel Co., 475 Abbott Rd., had plans prepared gas producer house and finishing mill. About $75,000.

Pa., Palmerton—New Jersey Zinc Co., 55 Wall St., New York City, plans 3-story, 60 x 130-ft. laboratory. About $200,000. Donn & Deming, archts., 808 17th St., N. W., Wash., D. C., receiving bids about July 1. Noted June 21.

Pa., Phila.—C. N. Forsythe, 3417 North 16th St., soon receives bids, 2-story, 52 x 200-ft. garage. About $60,000.

Pa., York—J. W. Richley Auto Co., 237 East Phila. St., had plans prepared by Gemmill & Bellmeyer, archts., 37 West Market St., for 2-story, 106 x 234-ft. garage. About $100,000.

Md., Baltimore—Baltimore Dry Dock & Shipbuilding Co., E. and Fort Aves., plans shipbuilding plant. About $3,500,000. Day & Zimmerman, engrs., 611 Chestnut St., receiving bids about July 1. Noted May 17.

Md., Baltimore—Consolidated Gas Light & Power Co., c/o J. R. Laizaux, Monument and Constitution Sts., having plans prepared for 1-story, 100 x 125-ft. boiler house. About $200,000.

Va., Richmond — American Locomotive Co. purchased site in Shockoe Valley adjoining plant recently acquired from Richmond Iron Works and will construct large foundry.

Fla., St. Petersburg — St. Petersburg Electric Light & Power Co., controlled by General Utilities & Operating Co., of Baltimore, plans to double capacity of plant. About $100,000. J. C. M. Lucas, Baltimore, pres.

O., Cleveland—O. Cook, 2880 Fairfax Rd., had plans prepared by Lehman & Schmidt, archts., Electric Bldg., for 3-story, 86 x 110-ft. plant at Prospect Ave.

Industrial Work (Continued)

and East 46th St., to be leased to Kelly-Springfield Tire Co., 704 Woodland Ave. About $175,000.

O., Cleveland—Packard-Cleveland Motor Co., 5206 Prospect Ave. plans 3-story automobile building, Prospect Ave. About $125,000.

O., Columbus—Pennsylvania R.R. plans to spend $1,000,000 for enlarging shops and installing equipment. A. C. Shand, Broad St. Station, Phila., ch. engr.

O., Lorain—American Sheet & Tin Plate Co., prepared plans sheet and tin plate plant. About $30,000,000 or $45,000,000.

O., Toledo—Hettrick Bros. Co. plans plant at Summit and Magnolia Sts. About $250,000.

Ind., Bloomington—A. Beck, Ada, Okla., will construct a cement factory here. About $200,000.

Ind., Ft. Wayne—Fisher Body Corp., Ft. Wayne, plans 5-story addition.

Ill., Peoria—United States Electrical Supply Co. of Peoria, recently incorporated, having plans prepared electrical jobbing house. About $100,000.

Wis., Kenosha—Cooper Underwear Co., c/o Davidson & Weiss, archts., 53 West Jackson Blvd., Chicago, will build 4-story, 20 x 140-ft. addition. Plans being prepared.

Wis., Milwaukee—See "Reinforced Concrete."

Wis., Racine—See "Reinforced Concrete."

Minn., Minneapolis—Berman Bros., 227 1st Ave. N. having plans prepared by J. V. Koester, arch., 317 Lastota Bldg., for 4-story, 110 x 150-ft. hide warehouse. About $160,000.

Mo., Kansas City—Clagett Storage & Transfer Co., 1316 West 8th St., purchased site at 1216-18 West 8th St., and plans large warehouse.

Ore., Astoria—Standard Oil Co. plans distributing station here. About $150,000.

Cal., Bakersfield—San Joaquin Valley Sugar Co., Visalia, plans sugar factory. About $1,000,000.

Ont., Walkerville—Chalmers Motor Car Co., Jefferson Ave. and New Belt Line R.R. having plans prepared by C. W. Brandt, archt., 502 Kresge Bldg., Detroit, 3-story, 60 x 260-ft. assembling building.

BIDS DESIRED

N. Y., Central Islip—(Official)—Until July 6 by State Hospital Comn., Capitol, Albany, for extension to laundry and equipment at Central Islip State Hospital; advertised in this issue.

N. Y., West Haverstraw—(Official)—Until July 6 by G. Blagden, pres. bd. mgrs. New York State Hospital for Care of Crippled and Deformed Children, West Haverstraw, for extension to laundry building; advertised in this issue.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★Mass., Springfield — American Writing Paper Co., 9 Main St., Holyoke, let contract reconstruction work in Gill Division to Casper Ranger Constr. Co., $250,000.

★Conn., Bridgeport — See "Reinforced Concrete."

★Conn., Middletown — Franklin Electric Co., Woodbine St., Hartford, let contract, 3-story, 40 x 200-ft. addition to H. Wales Lines Co., 134 State St., Meriden.

★Conn., Waterbury—Chase Rolling Mill Co., 734 North Main St., let contract 4-story factory to Torrington Bldg. Co., 197 Water St., Torrington, $50,000.

★N. Y., New York—F. T. Hopkins, 37 Great Jones St., let contract 5-story warehouse to Story & Flickinger, 5 Great Jones St.

★N. Y., Syracuse — Onondago Pottery Co., 1858 West Fayette St., let contract 3-story warehouse, West Fayette St., to H. D. Best Co., 52 Vanderbilt Ave., New York City.

★Pa., Phila.—S. Weil let contract 5-story factory, on North Front St., to F. Freisler, 523 Lafayette Bldg., $50,000.

★Md., Curtis Bay—(Baltimore Post Office)—Standard Guano Co., Continental Bldg., let contract fertilizer plant and power house to Whiting Turner Constr. Co., Sexton Bldg., 7 South Gay St., both of Baltimore. $500,000.

★Va., Newport News—Newport News Shipbuilding & Dry Dock Co. let contract 4-story, 50 x 250-ft. addition to J. Stewart & Co., 30 Church St., New York City.

★O., Cleveland—Cleveland Fire Box Co., St. Clair Ave., let contract factory, East 55th St., to Crump Engr. Co., Leader-News Bldg., $100,000.

★O., Cleveland — Cleveland Pneumatic Tool Co., 6410 Hawthorne Ave., let contract 2-story, 94 x 145-ft. factory, East 78th St., to G. A. Rutherford Constr. Co., 2160 East 18th St.

★O., Cleveland—Cowles Tool Co. let contract plant, 2086-96 West 110th St. to E. R. Russell, Sincere Bldg., $50,000.

★O., Cleveland—Tabor Ice Cream Co., Payne Ave., let contract 3-story, 125 x 130-ft. warehouse and garage, Payne and East 35th, to DeHamel Constr. Co., American Trust Bldg.

★O., Youngstown—Youngstown Sheet & Tube Co., Youngstown, let contract mill buildings to Blaw Steel Co., Freeport Rd., Hoboken, Pa.

★Ind., Ft. Wayne—General Electric Co., Bway. and Pennsylvania R.R., let contract extension to Building No. 6 to Indiana Engr. & Constr. Co., 702 Shoaff Bldg., $85,000.

★Mich., Alma—Republic Truck Co. let contract 2 additions to C. J. Bernard, 5604 Theodosea Ave., St. Louis. About $100,000.

★Mich., Detroit—Detroit Shipbuilding Co. let contract factory, Atwater St., to Wisconsin Bridge & Iron Co., Colby-Abbot Bldg., Milwaukee, $116,000.

★Ill., Benton—United States Fuel Co. let contract brick, concrete and steel wash house near mine to Schmidt Bros. Constr. Co., 105 North Clark St., Chicago, $50,000.

★Ill., Chicago—Central Mfg. Co., 1st Natl. Bank Bldg., let contract power house and pipe line tunnels to E. W. Sproul, 38 South Dearborn St., $200,000. Noted May 31.

★Ill., Chicago—R. M. Fair, 2222 Calumet Ave., let contract factory to A. & E. Anderdon, 19 South La Salle St., $90,000.

★Ia., Davenport—Boot & Van Dervoort Engr. Co., East Moline, Ill., let contract factory to H. W. Horst Co., Horst Bldg., Rock Island, Ill., $150,000.

★Tex., Waco—Williams Dry Goods Co. let contract warehouse to J. E. Johnson, $90,000.

★Okla., Tulsa—J. A. Waldrep, 215 East 1st St., let contract factory and stockroom to W. Simpson Constr. Co., Marsh-Strong Bldg., Los Angeles, Cal., $50,000.

★Wash., North Yakima—Yakima Ice & Cold Storage Co. let contract cold storage plant to Puget Sound Bridge & Dredging Co., Central Bldg., Seattle, $75,000.

★Cal., Manteca—Spreckles Sugar Co., California and Davis Sts., San Francisco, let contract mill and refining plant to Dyer Bros. Constr. Co., Cleveland, $950,000.

BUILDINGS

Proposed Work

Mass., Everett—Hall, Bank, Store and Office—Everett Trust Bldg. Corp., 453 Bway., had plans prepared by A. C. Loring, archt., 53 State St., Boston, 3-story, 126 x 170-ft.

Mass., Lexington — High School — Bd. Educ. soon receives bids, 3-story, 82 x 129-ft., 1-story, 65 x 76-ft. and 1-story, 78 x 84-ft., brick and stone W. D. Brown, 45 Milk St., Boston, archt. Noted May 17.

Mass., Revere—School—City had plans prepared by E. I. Wilson, archt., 101 Tremont St., Boston, brick addition to school, Francis and Franklin Sts. About $80,000.

R. I., Pawtucket—Club—Pawtucket of Elks had plans prepared by R. C. N. Monahan, archt., 255 Main St., 2-story, 60 x 90-ft., brick, Exchange St. About $70,000. Noted June 21.

Conn., Bridgeport—Hotel and Store—F. Canavere soon lets contract, 4-story, 30 x 120-ft. Main St., and Union Sq. About $50,000. Davis & Dane, Conn. Bank Bldg., archts.

Conn., Hartford—Grade School—City had plans prepared by I. Allen, Jr., archt., 904 Main St., for 2-story addition. About $125,000. W. E. Cone, 81 Asylum St., chm.

Conn., New Haven—Business — Morris Steinhert Estate, 944 Chapel St., plans 3-story, 50 x 100-ft., brick and steel.

Conn., Stamford—School—Bd. Educ. having plans prepared by Emmens & Abbott, archts., 1 Bank St., State and South Sts.

Conn., Waterbury—Parish House—2nd Congregation plan. About $125,000. R. Brown, pastor.

N. Y., Brooklyn—Bank—Flatbush Savings Bank, 863 Flatbush Ave., having plans prepared by Slee & Bryson, archts., 154 Montague St., 2-story.

N. Y., Brooklyn—Hospital—City having plans prepared by Ludlow & Peabody, archts., 101 Park Ave., New York City, Auburn Pl., Portland Ave. and Elliott St. Bids will soon be received.

N. Y., Buffalo—Church and School—St. Margaret's Congregation had plans prepared, 3-story, brick, 1379 Hertel Ave. About $65,000.

N. Y., Buffalo—H. L. Beck, city archt., prepared plans for library, clinic rooms and public bathhouse. About $80,000.

N. Y., Pomfret—Hospital—Chautauqua Co. having plans prepared by Green & Eicks, archts., 111 Franklin St., Buffalo, 3-story. About $135,000.

N. Y., Poughkeepsie—School—Bd. Educ. soon receives bids, 2-story, 60 x 100-ft. Warring Pub. School. About $50,000. E. C. Smith, 39 Market St., archt.

N. Y., Utica—Bank—Utica Trust & Deposit Co., 162 Genesee St., purchased site and will construct addition.

N. Y., White Plains—School—Bd. Educ. soon lets contract 2-story. Tooker & Marsh, 101 Park Ave., New York City, arch.

N. J., Atlantic City—Hotels—Syndicate headed by J. McE. Bowman, pres. and man. dir. hotels Biltmore, Manhattan, Ansonia and Commodore, recently organized, has had plans prepared by Warren & Wetmore, archts., 16 East 74th St., New York City, for 3 hotels on beach front to be named respectively, Atlantic-Biltmore, Atlantic-Manhattan, and Atlantic-Commodore.

Pa., Harrisburg—High School—Bd. Educ. had plans prepared by V. T. Ritter, archt., 1st Natl. Bank Bldg., Huntington, W. Va., 3-story. About $380,000.

Pa., Phila. — Theater and Office — S. Tauber, 229 West 109th St., New York City, is promotor for 6-story theater and office to be built on Broad St. on site of Horticultural Hall. About $300,000.

Pa., Pittsburgh—Bank—Union Trust Co. had plans prepared by Trowbridge & Livingston, archts., 5-story, granite or marble, Wood and Diamond Sts.

Pa., Scranton—Temple—Scranton F. and A. Masons acquired property on Washington Ave. and plan temple.

Pa., Tarentum—Hospital—Hospital Aid Assn. retained P. C. Dowler, archt., Arrott Bldg., Pittsburgh, to prepare plans, 2-story. About $100,000.

Va., Richmond—Hospital—Retreat for the Sick, c/o J. F. Lewis, secy., 319 North 12th St., plans, 4-story. About $150,000. Carneal & Johnson, archts., Chamber of Commerce Bldg., receiving bids about July 15.

Fla., Jacksonville—(Official)—School—Bd. Pub. instruction, Room 203 Court House, rejected bids School No. 6. R. A. Benjamin, archt. Noted May 31.

O., Cleveland — Library — City having plans prepared by Walker & Weeks, archts., 1900 Euclid Bldg., for Public Library, Superior and Rockwell Aves. About $2,000,000 available.

O., Cleveland — Store — Phypers Investment Co., prepared plans, 3-story, St. Clair and East 152nd Sts. About $70,000.

O., Cleveland—Store—J. Zucker, 2802 Superior Ave., plans 3-story, East 68th and Superior Sts. About $50,000.

O., Lakewood—Schools—City voted $620,000 bonds to build schools. Noted May 31.

O., Painesville—Parochial School — St. Mary's Congregation had plans prepared by C. R. Greco, archt., 729 Guardian Bldg., Cleveland, 1- and 2-story. About $50,000.

O., Toledo — Temple — Toledo Masonic Bldg. Co., Adams and Michigan Sts., having plans prepared by Langdon & Hohly, archts., 1442 Nicholas Bldg., for 4- or 5-story, 100 x 128-ft. addition. About $300,000.

O., Warren—Church—1st Presbyterian Congregation, plans 2-story, 115 x 125-ft. and 30 x 80-ft. Crow, Lewis & Wickenhoefer, archts., 208 5th Ave., New York City, receiving bids about July 15.

Ind., Anderson—Lodge—B. P. O. Elks plans, 2-story, 70 x 100-ft. About $100,000. D. F. Barr, 1031 Main St., secy. C. D. McLane, archt., 301 Robinson Bldg., soon receives bids.

Buildings (Continued)

Ill., Chicago — Hotel — American Cities Hotel Corp., 111 West Monroe St., having plans prepared by W. W. Ahlschager, archt., 111 West Washington St., for Pleasance Hotel, 10-story, 150 x 176-ft. About $900,000. A. S. Coyle, pres.

Ill., Chicago—Hotel—S. T. Cooper, 111 West Washington St., plans, 11-story, 143 x 175-ft. and 75 x 125-ft. H. J. Newhouse, archt., 4630 Prairie Ave., soon receives bids.

Ill., Chicago—School—University of Chicago completed plans medical school. About $5,800,000. H. P. Judson, pres.

Ill., Oak Park—Bank, Office and Store—Avenue State Bank had plans prepared by Pucksey & Jenkins, archts., 6 North Michigan Ave., Chicago, 2-story, 96 x 140-ft. About $100,000.

Ia., Sioux City—Hotel—7th and Pierce Co., c/o W. B. Nation, having plans prepared by F. W. Fitzpatrick, archt., 4200 16th St., N. W., Washington, D. C., for 10-story, brick, terra cotta and rein.-con. About $750,000.

Minn., Minneapolis—Schools—Bd. Educ. approved plans addition to schools as follows: McKinley School, $56,000; Corcoran School, $56,000; Bryant School, $66,000; Maria Sanford, Grover Cleveland, Hamilton, Bremer Junior High School and Seward School, $242,500.

Kan., Hutchinson — High School — Bd. Educ. receiving bids about July 15, 4-story, 95 x 114-ft. About $125,000. W. E. Hulse & Co., archts., 1st Natl. Bank Bldg., prepared plans. Noted May 24.

Kan., Peabody—High School—Bd. Educ. having plans prepared by G. W. Van Meter, 604 Caldwell-Murdock Bldg., Wichita, for 2-story, 63 x 106-ft. stone, terra cotta and rein.-con. About $50,000.

Neb., Omaha—Church—St. Mary's Ave. Congregation having plans prepared by G. B. Prinz, archt., Omaha Natl. Bank Bldg., brick church on 36th St. About $75,000 or $100,000.

Mo., St. Louis—Convention Hall—City plans election to vote on $2,000,000 bonds to build a convention hall. E. R. Kinsey, pres. bd. pub. ser.

Mo., St. Louis — Schools — City voted $3,000,000 to build schools. H. W. Kiel, mayor.

Okla., Stillwater—Armory and Gymnasium—State Bd. Agriculture had plans prepared by F. C. Biggin, archt., c/o State, 1-story, 80 x 220-ft. About $100,000. Noted Apr. 26.

Colo., Rocky Ford—High School—Bd. Educ. plans, 3-story, 115 x 160-ft. About $100,000. Mountjoy, French & Frewen, archts., 313 Chamber of Commerce Bldg., Denver, soon receives bids. Noted May 17.

Wash., Centralia—Theater—Field, Fitzgerald & Smith of Field & Lease Bank, Centralia, having plans prepared by W. Vernon, Finch Blk., Aberdeen, for 3-story, 80 x 130-ft. concrete. About $75,000.

Ore., Portland — Home — Grand Order Ancient Free and Accepted Masons plan. About $50,000. J. F. Robinson, Masonic Temple, secy.

Cal., Coalinga—High School—Bd. Educ. having plans prepared by E. J. Kump, archt., Fresno. About $100,000.

Cal., Fresno—School—City voted $500,000 bonds to build school.

Cal., Huntington Park—Grammer School—City voted in favor of issuing $78,000 bonds to build grammer school.

Cal., Riverside—School—City voted $50,000 bonds to build school in Arlington.

Cal., San Francisco — Bank — Canton Bank, 653 Kearny St., purchased site, Sacramento and Montgomery Sts., and plans. About $150,000. O. Schiller, archt.

Ont., London—Hospital Comn. preparing plans for soldiers hospital. About $550,000. Address A. Alexander, M. D.

BIDS DESIRED

Pa., Phila.—(Official)—Library—Until July 12 by G. E. Datesman, dir. pub. wks., Free Library of Philadelphia, Vine, 19th, Wood and 20th Sts., advertised in this issue. Noted Apr. 12.

O., Rocky River—High School—Until July 10 by C. H. Dean, clk. bd. educ., at Lakewood Rd. and Riverview Ave., about $60,000. W. H. Nicklas, 1900 Euclid Bldg., Cleveland, archt. Noted May 24.

Ind., Ft. Wayne—(Official)—Hospital—Until July 30 by W. Johnson, co. aud.

Ia., Columbus Junction—(Official)—High School Until July 23 by A. M. Mulhern, secy. Bd. Educ. About $90,000. Noted June 21.

Ia., Shenandoah—(Official)—High School—Until July 19 by Secy. Bd. Educ. About $120,000. Noted May 17.

Kan., Concordia—High and Grade Schools—Until July 18 by E. W. Ewing, supt. bd. educ., for high school and 2 grade schools. W. E. Hulse & Co., Hutchinson, archts. Noted June 21.

Kan., Great Bend—Court House—Until July 16 by County, 4-story, brick, stone and rein.-con. About $150,000. W. Beardsley, aud.

N. D., Almont—School—Until July 10 by T. A. Feland, pres. Sims school dist. No. 8, 2-story, brick. Ashelman & Gage, Fargo, archts and engrs.

Tex., Orange—(Official)—Hospital—Until July 3 by H. J. L. Stark, for F. Lutcher. C. H. Page & Bro., Austin Natl. Bank Bldg., Austin., archts.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Vt., Burlington**—Hospital—Home for Destitute Children Corp. let contract to O. A. Nichols, Essex Junction.

★**Mass., Dorchester**—(Boston P. O.)—Theater, Store and Office—L. Mullen, c/o Charlestown Trust Co., Charlestown, let contract to McGahey & O'Conner, Cambridgeport, $200,000.

★**Mass., Lowell**—Administration — Contagious Hospital, West Meadow Rd., let contract administration, dining and kitchen building and boiler house to F. F. Meloy, Lowell.

★**Mass., Lowell**—Theater, Store and Office—Strand Realty Co., 162 Tremont St., Boston, let contract to A. Beal & Son, 63 Tremont St., Boston, $100,000.

★**Conn., Jewett City**—Hotel—Aspinook Co. let contract 3-story, 50 x 100-ft., brick, to Fiske-Carter Constr. Co., 11 Foster St., Worcester, Mass.

Conn., Waterbury—High School—City received low bids English High School, from Mill Engr. & Constr. Co., Waterbury, $539,916 and Oscawanna Bldg. Co., 101 Park Ave., New York City, $567,000.

★**Conn., Waterbury**—High School—Bd. Educ. let contract English High School to Mill Engr. & Constr. Co., Waterbury, $539,916. Noted June 28.

★**N. Y., New York**—Theater—Putnam Theatrical Co. let contract, Fulton, Livingston, Smith Sts. and Gallitin Pl., to Fleischman Constr. Co., 7 West 45th St. About $500,000.

N. J., Harrison—School—Bd. Educ. received low bid addition to School No. 1 from McEvoy Bros., 33 6th St. Noted May 17.

★**N. J., Hoboken**—School—Bd. Educ. let contract P. S. No. 3 to M. T. Connoly Contr. Co., 238 17th St., $200,000. Noted June 7.

★**Pa., Athens**—High School—Bd. Educ. let contract to W. B. Richards, 24 Gates St., Wilkes-Barre. About $50,000.

★**Pa., Newcastle**—Lodge—Lodge No. 51, L. O. M. let contract to W. Chambers, $57,000.

★**Pa., Phila.**—Hospital—City let contract to Marx Constr. Co., Birmingham, Ala. About $2,000,000 available. Noted June 14.

★**Md., Baltimore**—School—Bd. Educ. let contract Linwood and Eastern Aves., to J. L. Robinson Constr. Co., 66 Knickerbocker Bldg., $117,000. Noted May 31.

★**O., Massillon**—Bank—Union Natl. Bank let contract, steel and brick, to J. L. Stuart, Illuminating Bldg., Cleveland. Noted May 17.

★**O., Youngstown**—Bank — Commercial Bank let contract addition to C. H. Medicus, 239 Lora Ave., $100,000. Noted Apr. 19.

★**O., Youngstown**—Museum—J. G. Butler, Jr., let contract, 50 x 124-ft. Georgian marble, Wick Ave., to J. H. Parker & Co., 315 4th Ave., New York City. About $250,000.

★**O., Youngstown**—See "Structural Steel."

★**Wis., Laona**—Schoolhouse—Bd. Educ. let contract to Krasin Bros., $50,000.

★**Wis., Madison**—Y. W. C. A. let contract building to Wisconsin Constr. Co., University Ave. and Charter St., $100,000.

★**Ia., Ottumwa**—High School—Bd. Educ. let contract to B. S. Staley Co., Ottumwa. About $144,719.

Minn., Aurora—High School—Independent School Dist. received low bid from Bailey-Marsh Co. About $300,000. Noted May 24.

★**Neb., York**—Schools—Bd. Educ. let contract 3 ward schools to Hansen & Nelson, Lincoln, $106,000.

★**N. D., Drake**—High School—Bd. Educ. let contract to R. B. Marschke, Lucca, $68,655.

★**N. D., Lakota**—Hotel—Lacota Hotel Co. let contract to D. A. Dinnie, Minot, $50,000. Noted May 24.

Mo., St. Louis—School—Bd. Educ. received low bid Penrose School, Clayton and Central Aves., from E. C. Gerhardt Constr. Co., $179,400.

★**Tex., Waco**—Store—Williams Dry Goods Co., let contract, Mary and 6th Sts., to J. E. Johnson, $90,000.

★**Okla., Norman**—Auditorium—State Bd. Pub. Affairs let contract to Holmboe Constr. Co., 311-315 Majestic Bldg., Oklahoma, $140,000.

★**Nev., La Vegas**—High School—See "Reinforced Concrete."

★**Wash., Pine City**—Lodge—Odd Fellows Lodge let contract, 8-story, 30 x 60-ft., to E. E. Erickson, Cheney.

Wash., Seattle—School—School Bd. received low bid Fauntleroy Grade School from Pohl Constr. Co., 3406 37th Ave., S. About $50,000.

★**Ore., Corvallis**—Library—Oregon Agricultural College let contract to Snook & Travers, Salem, $83,700.

★**Ore., Eugene**—Dormitory—Bd. Regents, University of Oregon, let contract to Van Patton & Son, Salem, $50,000. Noted June 7.

★**Cal., Sacramento**—School—Bd. Educ. let contract Washington School to H. S. Williams, Hearst Bldg., $196,816.

★**Ont., Hamilton** — School — Bd. Educ. let contract brick and steel to W. H. Hooper, Clyde Bldg., $70,000.

★**Ont., London**—Office—Utilities Bd. let contract to R. G. Wilson, 195 College St. and J. Purchbough, 1006 Wellington St., $100,000.

FEDERAL GOVERNMENT WORK

Proposed Work

O., Akron—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., rejected bids opened June 18. Noted June 21.

Minn., Montevideo—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., rejected bids opened June 19. Noted May 17.

Tex., Denton—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., rejected bids opened June 8. Noted June 21.

Tex., Orange—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., rejected bids opened June 6. Noted June 14.

BIDS DESIRED

N. Y., Tompkinsville—Coal—Until June 30 by Lighthouse Inspector for 350 tons pea coal and 250 tons stove coal; advertised in this issue.

Pa., Dubois—Post Office—Until Aug. 9 by J. A. Wetmore, superv. archt., treas. dept., Wash., advertised in this issue.

Md., Annapolis—Building—Until July 9 by Bureau of Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., for addition to Bancroft Hall, U. S. Naval Academy.

Wash., D. C.—Canal Wall—Until July 2 by Dist. Comrs., Room 509 Dist. Bldg.

Wash., D. C.—Cement—Until July 10 by U. S. Engr. Office, Room 305, Southern Bldg., for furnishing and delivery at foot 35th St., here, 15,000 bbl. more or less of portland cement; advertised in this issue.

Wash., D. C.—Dredge—Until Aug. 20 for purchase of 1 pipe line suction dredge offered for sale by Panama Canal; advertised in this issue.

W. Va., Charleston — Buildings — Until July 16 by Bureau Yards and Docks (F. R. Harris, ch.), Navy Dept., Wash., for 4 buildings.

Federal Government Work (Continued)

Tenn., Gallatin—Post Office—Until July 26 by J. A. Wetmore, superv. archt., treas. dept., Wash. Formerly published as an error to be received until June 26. Advertised in June 21 issue.

O., Cincinnati—Cement—Until July 23 by U. S. Engr. Office, 1st Dist., furnishing and delivering about 7200 bbls. American portland cement for dam No. 39, Ohio River.

Ia., Glenwood—Post Office—Until July 9 by J. A. Wetmore, superv. archt., treas. dept., Wash.

Tex., Vernon—Post Office—Until July 27 by J. A. Wetmore, superv. archt., treas. dept., Wash.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**N. Y., Buffalo**—Steel Towers — Lighthouse Inspector, Buffalo, let contract furnishing metal work for 2 steel towers for Manhattan Range Lights, O., to Great Lakes Dredge & Dock Co., Morgan Bldg., Buffalo, $8350.

★**N. Y., Yaphank**—Cantonment Buildings —N. D. Baker, secy. war, let contract to Thompson-Starrett Co., 49 Wall St., New York City.

N. J., Lake Denmark—(Wharton P. O.) —Storage Buildings—Bureau Yards and Docks, Navy Dept., Wash., received low bids from W. L. Goeltz Co., 50 Broad St., New York City, $107,200; United Fireproofing Co., 8 West 40th St., New York City, $116,170; C. D. Pruden & Co., Bayard and Warner Sts., Baltimore, $123,683. Noted Apr. 26.

★**Md., Annapolis Junction**—Cantonment Buildings—N. D. Baker, secy. war, let contract to Smith, Hauser & MacIssac, 18 East 41st St., New York City.

Wash., D. C.—Bridges—Comr. of Indian Affairs, Wash., received bids, June 20, steel highways bridges on Umatilla Indian Reservation, from Monarch Engr. Co., 312 17th St., Denver; Omaha Structural Steel Co., 420 Bee Bldg., Omaha; Zeich & Walton, 552 Gillilan Bldg., St. Paul; Midland Bridge Co., 504 Midland Bldg., Kansas City, Mo.

Wash., D. C.—Coast Guard Station—Navy Dept., U. S. Coast Guard, Wash., received low bids Coast Guard Station No. 184, Creeds Hill, N. C., from Evans & Meekins, Manteo, N. C., $18,200, and J. W. Martin, Elizabeth City, N. C., $17,567. Noted May 24.

★**Wash., D. C.**—Radio Buildings—Bureau Yards and Docks, Navy Dept., let contracts masts and towers at various radio stations as follows: C. L. Dooley, 257 Adelphia St., Brooklyn, for Portland, Me., $4800, Portsmouth, N. H., $4950; F. A. Day's Sons, 24 Pearl St., Provincetown, Mass., for North Truro, Mass., $4490; T. M. McCarrel, Charlestown, S. C., for Charlestown, Mass., $3898; W. T. Hadlow, Baldwin Bldg., Jacksonville, Fla., for St. Augustine and Jupiter, Fla., $3898 and $9281 respectively. Noted June 21.

Wash., D. C.—Sewers—Dist. Comrs., Room 509 Dist. Bldg., received only bid June 21, outlet trunk sewer on 4th St., S. E., from Warren F. Brenizer, Wash., 9000 lin.ft. piling driven in place and cut off, 40c. per lin.ft.; 17,000 ft. b.m. of lumber, $75 per M ft.; 750 cu.yd. ordinary excavation, $2.25; 400 cu.yd. concrete masonry "E" in place, $12.50; 35 cu.yd. vitr. brick masonry, $29; 4 cu.yd. sewer brick masonry, $16.

N. C., Chapel Hill—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received only bid from W. J. Brent Constr. Co., Bd. Trade Bldg., Norfolk, Va., $48,333. Noted June 7.

N. C., Wash Woods—Coast Guard—Navy Dept., U. S. Coast Guard Headquarters received low bid Coast Guard Station No. 166 from Evans & Meekins, Manteo, $19,000. Noted June 7.

Fla., Pensacola—Bulkhead, etc.—Bureau Yards and Docks, Navy Dept., Wash., received low bids bulkhead piers, culverts, fill and pavement at Navy Aeronautic Station from H. Monk, Pensacola, $94,000; F. G Proudfoot, Tampa, $77,610.

★**Fla., Pensacola**—Tower—Bureau Yards and Docks, Navy Dept., Wash., let contract to C. H. Turner Co., Pensacola, $25,260. Noted June 21.

★**Ky., Louisville**—Cantonment Buildings —N. D. Baker, secy. war, let contract to Mason & Hanger, Richmond.

★**O., Chillicothe**—Cantonment Buildings —N. D. Baker, secy. war, let contract to A. Bentley & Co., Toledo.

Ill., Aledo—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids (a) limestone, (b) sandstone, from G. W. Stiles Constr. Co., Rookery Bldg., Chicago, (a) $43,414, (b) $43,714; Michie Constr. Co., 82 Wisconsin St., Milwaukee, (a) $43,100, (b) $43,600; Northern Constr. Co., 421 Milwaukee St., Milwaukee, (a) $42,675, (b) $43,200. Noted May 17.

★**Ia., Des Moines**—Cantonment Buildings —N. D. Baker, secy. war, let contract to C. Weitz Sons, 713 Mulberry St.

Minn., Montevideo — Post Office — **J. A.** Wetmore, superv. archt., treas. dept., Wash., received lows bids, (a) limestone, (b) sandstone, from J. Lauritzen, Fergus Falls, (a) $46,839; J. Hellerick, Montevideo, (a) $47,212, (b) $47,737; J. H. Alson & Co., Willmar, (a) $48,300. Noted May 17.

Kan., Cherryvale—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids from C. Weitz Sons, 713 Mulberry St., Des Moines, Ia., $38,300; G. W. Stiles Constr. Co., Rookery Bldg., Chicago, $43,000; G. A. Shaul, Seneca, Kan., $48,790. Noted May 17.

★**Kan., Ft. Riley**—Cantonments Building —N. D. Baker, secy. war, let contract to G. A. Fuller Co., 175 5th Ave., New York City.

Wyo., Ft. Laramie—Canal—U. S. Rec. Ser., Ft. Laramie, received low bid excavating main canal on Ft. Laramie Unit, North Platte Project. Nebraska-Wyoming, from J. E. Hilton, Billings, Mont. Noted May 17.

Mo., Butler—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids, June 22, from C. Weitz Sons, 713 Mulberry St., Des Moines, $42,460; Johnson Constr. Co., Argo, N. C., (Lillington P. O.); G. A. Shaul, Seneca, Kan. Noted June 7.

★**Mo., St. Louis**—Aviation Station—Newton D. Baker, secy. war, let contract to United Constr. Co., Title Guaranty Bldg., St. Louis, at cost plus percentage, $500,000.

Ark., Fordyce—Post Office—J. A. Wetmore, superv. archt., treas. dept., Wash., received low bids, June 22, (a) limestone, (b) sandstone, as follows: W. O'Neil & Sons Co., Faribault, Minn., (a) $31,979, (b) $32,929; King Lumber Co., Charlottsville, Va., (a) $42,000, (b) $44,000; A. Blair, Montgomery, Ala., (a) $42,850, (b) $43,400. Noted May 24.

★**Ark., Little Rock**—Cantonment Buildings—N. D. Baker, secy. war, let contract to J. Stewart & Co., 30 Church St., New York City.

★**Tex., Ft. Sam Houston**—Cantonment Buildings—N. D. Baker, secy. war, let contract to Stone & Webster Engr. Corp., 147 Milk St., Boston.

★**Wash., Tacoma**—Waterworks and Sewerage Systems—Hurley-Mason Co., general contractors for U. S. cantonment buildings at American Lake let contract waterworks and sewerage systems to Tacoma Dredging Co., Perkins Bldg., Tacoma. Project includes 15,000,000 gal. reservoir and about 20 mi. sewers and 20 mi. water pipe lines.

MISCELLANEOUS

Proposed Work

Garbage Disposal Plant—Tottenville, S. I., N. Y.—Metropolitan By-Products Co., 52 Vanderbilt Ave., New York City, plans, at Lake Island near Tottenville. About $18,000.

Dock—Phila., Pa. — Crew Levick Co., Land Title Bldg., will build 40 x 1200-ft. dock at proposed new oil works on Petty's Island.

Elimination of Grade Crossings—Reading, Pa.—Chamber of Commerce engaged H. H. Althouse, cons. engr., Woolworth Bldg., New York City, to prepare plans for elimination of grade crossings on 7th St. along Philadelphia & Reading Ry.

Retaining Walls—Fayetteville, W. Va.—See "Streets and Roads."

Wharves—New Orleans, La.—City appropriated $15,000 to improve wharf facilities here. W. G. Hardee, city engr.

Park Improvements—Toledo, O.—City receiving bids July 23 for sale of $150,000 bonds for park improvements. W. Steward, dir. finance. Noted June 7.

Subway—Cairo, Ill.—Cleveland, Cincinnati, Chicago & St. Louis Ry. will elevate its tracks upon and across Washington Ave. in northern section of city preparatory to building Sycamore St. subway. C. A. Paquette, Cincinnati, ch. engr.

Park Improvements — Okemah, Okla.—City voted $10,000 bonds to improve parks.

Culverts—Santa Ana, Cal.—See "Streets and Roads."

BIDS DESIRED

Elevated Railway—Brooklyn, N. Y.—Until July 5 by Pub. Ser. Comn., 120 Bway, New York City, for constructing Route 49, Sec. 3, Culver Rapid Transit R.R. from point near Ave. X to Sheepshead Bay Rd.

Dam—New Brunswick, N. J.—See "Reinforced Concrete."

Marble Wainscoating—Media, Pa.—(Official)—Until July 9 by O. L. Davis, co. controller, for marble wainscoating for main stairway and 2nd story front corridors of courthouse; advertised in this issue.

Coal—Ionia, Mich. — (Official) — Until July 5 by O. Fuller, warden Michigan Reformatory, 4000 tons bituminous coal; advertised in this issue.

Piling—San Antonio, Tex.—Until July 12 by F. Fries, city clk., furnishing 27,000 lin.ft. cypress piling, 12x12-in. x 27 ft., 121,000 lin.ft. cypress lumber 3x12-in. x 10-ft. and 5500 ft. trench and backfilling for retaining walls along San Antonio River.

Wharves—Kingston, Ont. — (Official)—Until July 16 by Dept. Pub. Wks. for reconstructing part of cribwork wharves at entrance to dry dock. R. C. Desroches, secy.

PRICES AND CONTRACTS AWARDED

(★Indicates award of contract)

★**Boardwalk—Newport Beach, Cal.**—City let contract to G. Helms, Newport Beach, $14,091. Noted May 17.

★**Dam—San Rafael, Cal.**—Marin Municipal Water Dist. let contract Alpine Dam in Lagunitas Canyon to Leonard & Hansen, San Francisco, $211,626.

MATERIAL REQUIRED FOR CANTONMENTS

The Quartermaster's Department has finished its estimate of the amount of building materials required in each of the cantonments for the national army. The quantities may be more or less varied by construction needs which develop while the work is in progress and the difference in climate between the Northern and Southern part of the country has its effect on the quantities of some of the materials.

In the Southern states there will be about 5,600,000 board feet of boards, 7,800,000 board feet of dimension stuff, 177,000 ft. of 4 x 4 in. timbers 2,800,000 ft. of flooring, 1,200,000 ft. of siding and 1,400,000 ft. of matched boards. In the northern cantonments, where the amount of lumber will be increased about 216,000 board feet.

To construct one of these cantonments in the south it will be necessary to use over 2500 kegs of nails and in the northern cantonments about 2650 kegs. The buildings in a southern cantonment will require 4800 rolls of sheathing paper, 6300 squares of one-ply roofing, 21,900 squares of two-ply roofing, and about 2110 rolls of tarred felt. In the northern cantonments the amount of one-ply roofing will be reduced to about 800 squares while the amount of tarred felt will be increased to 3200 rolls.

The concrete work in a cantonment is estimated to require 4700 bbl. of portland cement, 1400 cu.yd. of sand and 2500 cu.yd. of broken stone of screened gravel.

In order to extinguish fires in these cantonments about 8300 fire extinguishers holding 2½ gal. each, will be placed around the buildings. There will also be at convenient places about 3000 water casks similar to those used in shipping oil. These will be painted red and have brackets from which 12-quart galvanized iron fire pails will be hung. The 16 cantonments will require nearly 120,000 of these fire pails. There will be water mains running through the camps fitted with hydrants and about 380,000 ft. of 2½-in. hose will be provided for connection with the hydrant nozzles.

The plumbing work for the 16 cantonments calls for about 1,600,000 ft. of ¾- to 2½-in. galvanized pipe, 20,000 nipples, 30,000 unions, 225,000 malleable fittings, 30,000 shower bath heads, 40,000 closets and tanks, 12,000 urinal troughs, 9000 lavatory troughs, 23,000 floor drains, 5000 roof flashings, 95,000 ft. of cast iron sewer pipe, 150,000 of soil pipe fittings, 822,000 lb. of calking lead, 91,000 lb. of oakum, 8000 terra cotta grease traps, 8000 cast iron sinks, and 6000 galvanized range boilers.

It is estimated that about 4000 cars will be required to transport these materials to each cantonment, and while they are being delivered many more cars will be required to furnish the supplies needed for the workmen, who will number between 3500 and 5000, according to the condition of the work and the size of the cantonment. Furthermore, in order that the recruits may be accommodated as soon as they arrive, large quantities of cantonment furniture will arrive before the construction is finished, for as the workmen move out their places will probably be taken at once by the new soldiers who are to be trained in these camps.

Volume 78 Number 13

Engineering News-Record

A CONSOLIDATION OF ENGINEERING NEWS AND ENGINEERING RECORD

FREDERICK E. SCHMITT, *Editor*

June 28, 1917

Grouting the Foundation of the Elephant Butte Dam 625
By E. H. Baldwin.
Upstream Row of Grouted Holes and two downstream rows of drainage wells serve as telltales.
Engineering News-Record, June 28, 1917. 7 cols. Ill.

Milwaukee Air-Diffusion Studies in Activated Sludge 628
By Carl H. Nordell.
Problem Analyzed—Must expose large air-water interface—Nozzles and mechanical beaters eliminated—Fine-bubble diffuser plates most promising.
Engineering News-Record, June 28, 1917. 3 cols. Ill.

Concentrated Potash a Byproduct of Cement Mill 630
After-Treatment To Dilute Potash from precipitation process gives 6 lb. potash per barrel of clinker.
Engineering News-Record, June 28, 1917. 5 cols. Ill.

Diagrams Facilitate Design of Office-Building and Mill-Building Columns 632
By W. S. Wolfe.
Built-Up I-Section of typical sizes can easily be selected when length, load and moment are known.
Engineering News-Record, June 28, 1917. 2½ cols. Ill.

Effect of Fire on Reinforced-Concrete Buildings Analyzed 633
Engineering News-Record, June 28, 1917. 1 col.

Bascule Bridge at Syracuse Typical of New York Canal Crossings 634
By Arthur G. Hayden.
Skew of 23° led to using fixed floor over counterweight pit—Small movable sections along girders provide clearance.
Engineering News-Record, June 28, 1917. 5 cols. Ill.

Vagaries of Expansion and Contraction Movements 636
Engineering News-Record, June 28, 1917. 1 col.

Dock Wall Built for a River-Front Building 637
Proximity to Seven-Story Structure at Chicago made underpinning important feature of work.
Engineering News-Record, June 28, 1917. 2 cols. Ill.

Busy Street Repaved Without Stopping Street-Car Traffic 638
Recut Granite Block laid between rails—Asphalt paving is used on the main roadway.
Engineering News-Record, June 28, 1917. 2 cols.

Important Series of Steel Column Tests Establishes Principles of Strength 639
Reliable Data on strength of modern steel columns provided by over 200 column tests at Bureau of Standards—Strength found to depend on the compressive yield-point of the steel.
Engineering News-Record, June 28, 1917. 13 cols. Ill.

Attempts To Eliminate Dangerous Railroad Crossings 645
California Commission recommends 1100 improvements to lessen fatalities and injuries to users of highways.
Engineering News-Record, June 28, 1917. 1½ cols.

Canadian Cantonments All Built by One Contractor 646
Organization Developed During Three Years of rush work completes camps in short order.
Engineering News-Record, June 28, 1917. 3½ cols. Ill.

Northern Pacific Railway Has Fine New Drafting Room 648
Spacious and Well-Equipped Quarters—Large drafting tables—Metal filing cases—Facilities for filing drawings and books.
Engineering News-Record, June 28, 1917. 6½ cols. Ill.

Labor Conditions and How Contractors See Them 651
Shortage of Supply and shifting of men from place to place constitute difficult problem and chief cause of decreasing efficiency.
Engineering News-Record, June 28, 1917. 5½ cols.

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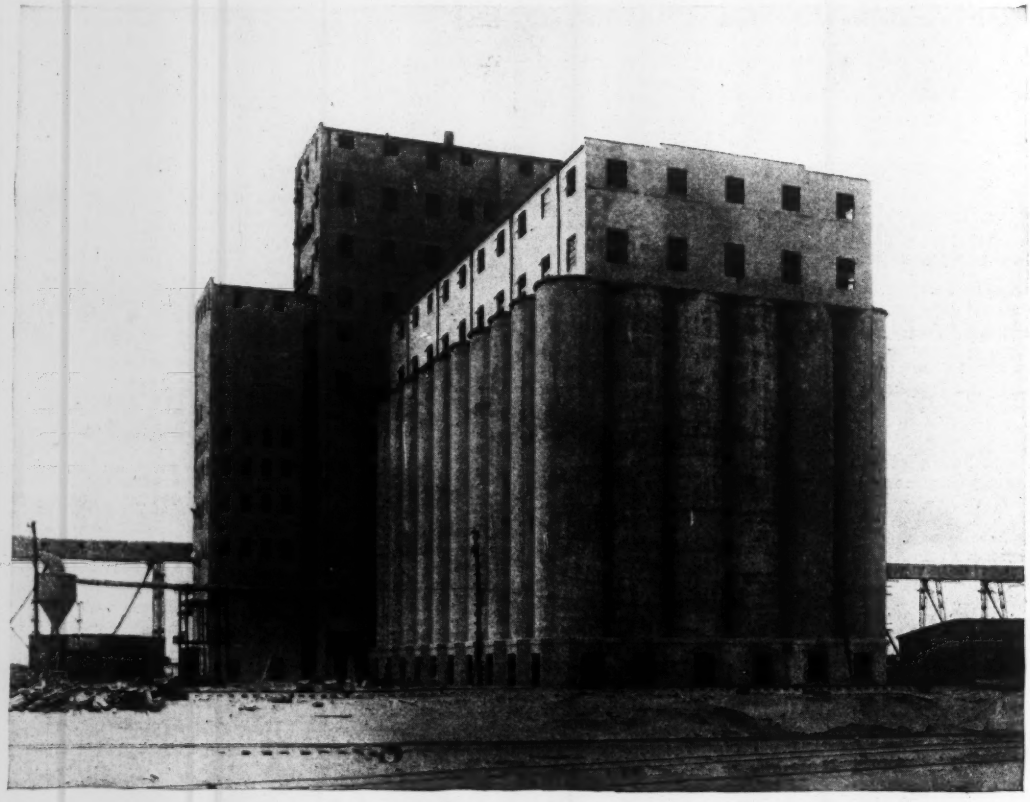

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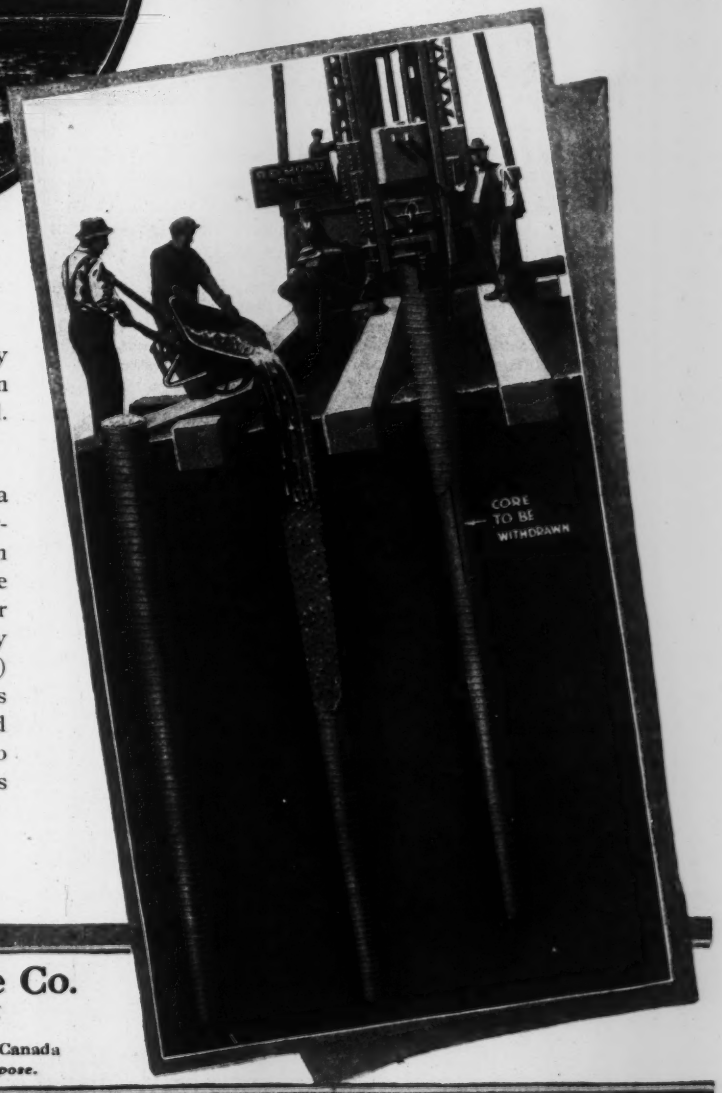

Concrete Piles driven in marshy soil *must* be formed by an absolutely dependable method. That is obvious.

In the Raymond method, a spirally reinforced and watertight steel shell is first driven over a collapsible core. This core is then withdrawn, the interior of the shell inspected and finally the shell (**left in the ground**) is filled with concrete. **This** is the method that has influenced numbers of big architects to specify that the concrete piles shall be Raymond.

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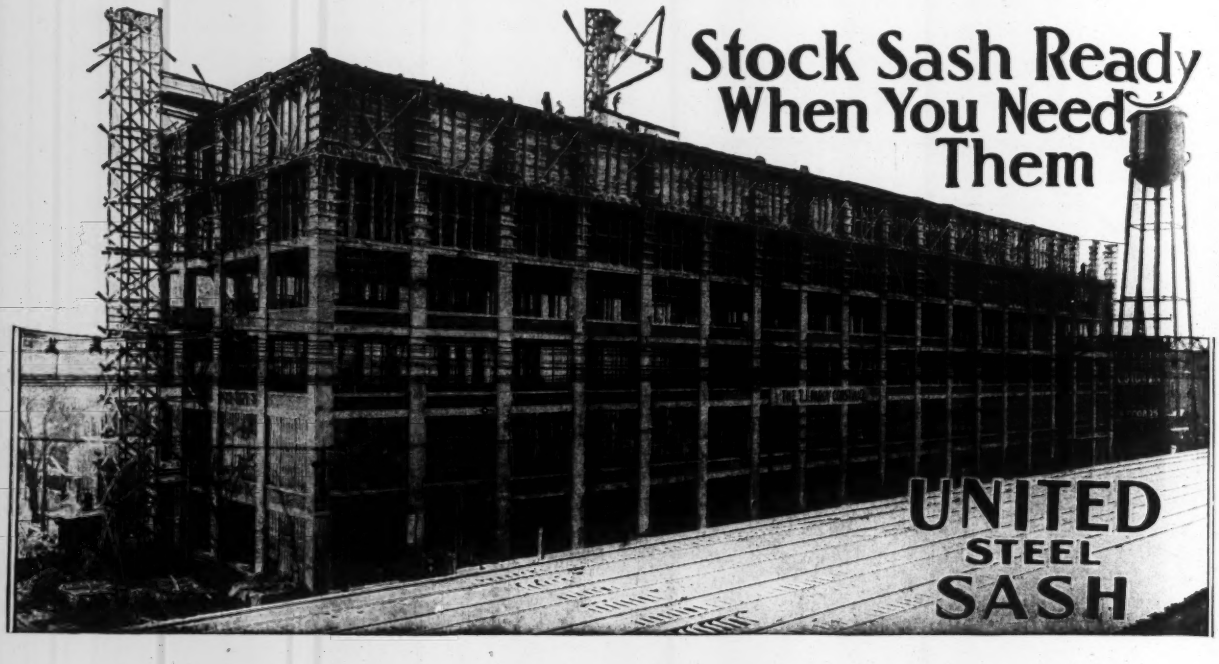
A Form for every Pile—A Pile for every purpose.



In these busy days you cannot afford to wait for building materials. In our main warehouse at Youngstown we have large stocks of sash units (shown below) to meet practically all building requirements. All units are furnished in two glass sizes, 12 in. x 18 in. and 14 in. x 20 in. The sash are the same high-quality United Steel Sash which have demonstrated their superiority in so many tests and investigations.

We also furnish Semi-Stock Sash, in which the ventilators are carried in stock and frames made to order—as well as To-Order Sash to meet any special requirements. The complete line of United Steel Sash includes everything in pivoted and sliding sash, continuous sash, partitions, doors, etc.—all distinctly superior in strength, weathering, workmanship, hardware, finish and service.

For quick deliveries, specify stock sizes of United Steel Sash, thus saving time and money. Write for Stock Sash Pamphlet or complete Sash Handbook.

KAHN Building Products — TRUSSED CONCRETE STEEL CO.

Steel Sash Dept. **Youngstown, Ohio**

KAHN Building Products

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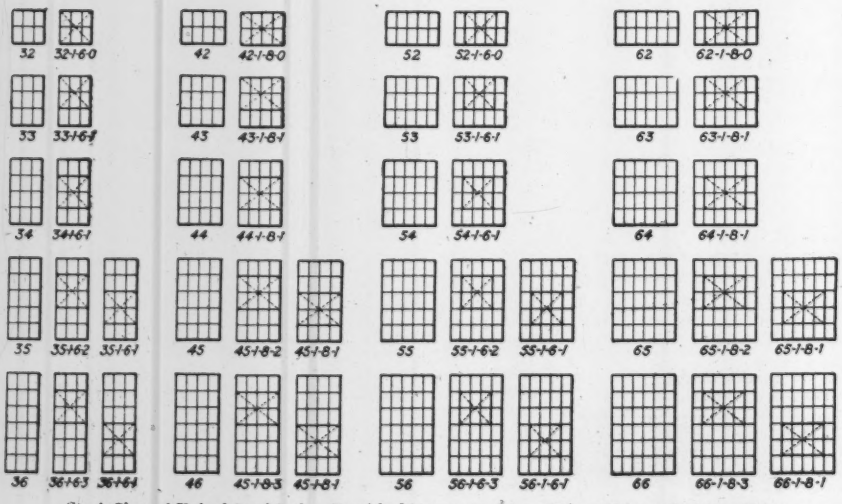


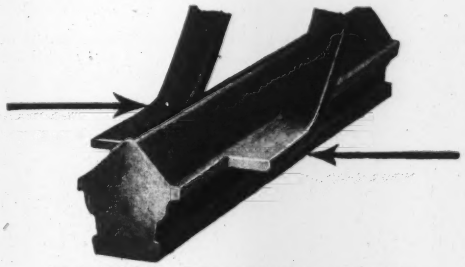
Stock Sizes of United Steel Sash. Furnished in two glass sizes, 12 in. x 18 in. and 14 in. x 20 in.

TABLE OF WIDTHS OF WINDOW OPENINGS

Width of Window Openings	Size of Glass	Total Lights Wide	No. Sash Units
3'- 3"	12x18	3	1
3'- 9"	14x20	3	1
4'- 3½"	12x18	4	1
4'-11½"	14x20	4	1
5'- 4"	12x18	5	1
6'- 2"	14x20	5	1
6'- 4½"	12x18	6	1
6'- 8" to 6'- 9"	12x18	6	2
7'- 4½"	14x20	6	1
7'- 8" " 7'- 9"	14x20	6	2
8'- 9" " 8'-10"	12x18	8	2
10'- 0½" " 10'- 2½"	12x18	9	3
10'- 1" " 10'- 2"	14x20	8	2
10'-10" " 10'-11"	12x18	10	2
11'- 1" " 11'- 3"	12x18	10	3
11'- 6½" " 11'- 8½"	14x20	9	3
12'- 1½" " 12'- 3½"	12x18	11	3
12'- 6" " 12'- 7"	14x20	10	2
12'- 9" " 12'-11"	14x20	10	3
12'-11" " 13'- 0"	12x18	12	2
13'- 2" " 13'- 4"	12x18	12	3
13'- 5½" " 13'- 8½"	12x18	12	4
13'-11½" " 14'- 1½"	14x20	11	3
14'- 2½" " 14'- 4½"	12x18	13	3
14'-11½" " 15'- 0½"	14x20	12	2
15'- 2" " 15'- 4"	14x20	12	3
15'- 3" " 15'- 5"	12x18	14	3
15'- 5½" " 15'- 8½"	14x20	12	4
15'- 6½" " 15'- 9½"	12x18	14	4
16'- 3½" " 16'- 5½"	12x18	15	3
16'- 4½" " 16'- 6½"	14x20	13	3
17'- 4" " 17'- 6"	12x18	16	3
17'- 7" " 17'- 9"	14x20	14	3
17'- 7½" " 17'-10½"	12x18	16	4
17'-10½" " 18'- 1½"	14x20	14	4
18'- 4½" " 18'- 6½"	12x18	17	3
18'- 9½" " 18'-11½"	14x20	15	3
19'- 5" " 19'- 7"	12x18	18	3
19'- 8½" " 19'-11½"	12x18	18	4
20'- 0" " 20'- 2"	14x20	16	3
20'- 3½" " 20'- 6½"	14x20	16	4
21'- 2½" " 21'- 4½"	14x20	17	3
21'- 9½" " 22'- 0½"	12x18	20	4
22'- 5" " 22'- 7"	14x20	18	3
22'- 8½" " 22'-11½"	14x20	18	4
23'-10½" " 24'- 1½"	12x18	22	4
25'- 1½" " 25'- 4½"	14x20	20	4
25'-11½" " 26'- 2½"	12x18	24	4
27'- 6½" " 27'- 9½"	14x20	22	4
29'-11½" " 30'- 2½"	14x20	24	4

TABLE OF HEIGHTS OF WINDOW OPENINGS

Height of Window Openings	Size of Glass	Total Lights High	No. Sash Units
3'- 2"	12x18	2	1
3'- 6"	14x20	2	1
4'- 8½"	12x18	3	1
5'- 2½"	14x20	3	1
6'- 3"	12x18	4	1
6'-11"	14x20	4	1
7'- 9½"	12x18	5	1
8'- 7½"	14x20	5	1
9'- 4"	12x18	6	1
10'- 4"	14x20	6	1



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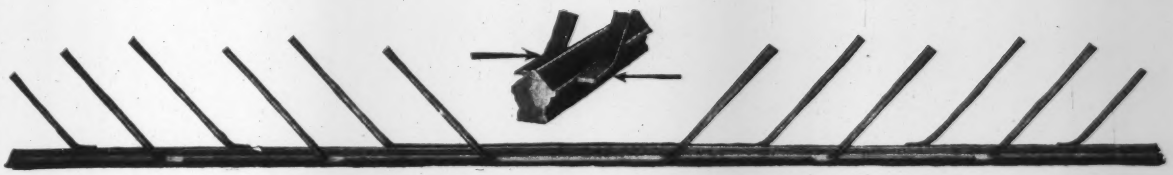

KAHN TRUSSED BAR

The **Kahn Trussed Bar** for reinforcing concrete consists of a main horizontal bar and **rigidly connected diagonal shear** members. The cross section of the bar has two horizontal flanges projecting at opposite sides. These flanges are sheared up at intervals to form the rigidly connected diagonals, making a unit of main bar and shear members.

Kahn Trussed Bars save steel, because the shear members are formed from that portion of the flanges of the main bar where the whole section is no longer required to resist bending moment. This saves the entire expense of additional steel required for loose stirrups.

Kahn Trussed Bars save labor of installing many loose separate bars, because shear members and main bar are handled as one piece.

Kahn Trussed Bars safeguard the structure because the rigidly connected shear members make its strength independent of the adhesion of the concrete. Loose stirrup designs depend upon this adhesion, which may be destroyed by fire, shock, or careless workmanship.

Kahn Trussed Bars make beams 12% to 30% stronger than where loose stirrups are used, as proven by University tests.

The web members of **Kahn Trussed Bars** are inclined at 45 degrees at right angles to the plane of weakness in the beam and present a flat surface to the compression stresses, which grip them like a vise.

Our products cover the field of reinforced concrete completely, including, in addition to Kahn Trussed Bars—Rib Bars, Column Hooping, Rib Metal, Floretyles, Hy-Rib, Kahn Mesh, etc., etc.

If you are interested in building write for our suggestions and literature.

KAHN Building Products

Trussed Concrete Steel Co.

Youngstown, Ohio

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And Solomon

Forgot to invite the Forgeman to the banquet celebrating the completion of the temple.

When the throne was unveiled however there sat the forgeman in the seat of honor the uninvited.

The guards rushed to cut him down; but Solomon said "How could this temple have been built but for this man?"

Now then, when building your engines, ships and machinery invite prices on

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Any forging to your print and specifications, smooth forged, rough machined or finished complete in either iron or steel.

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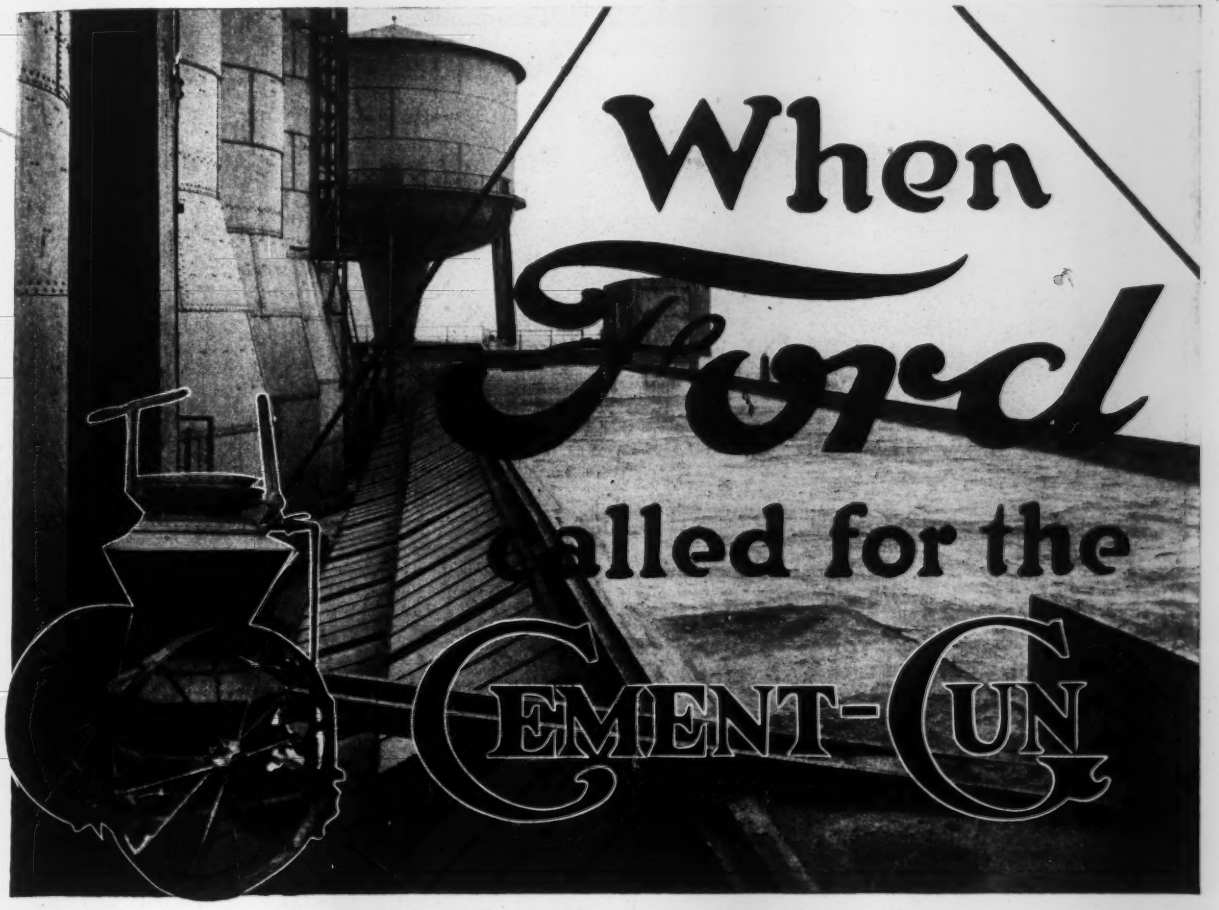

Ford sent for the Cement-Gun Construction Co. of Chicago, and here's what they did with **"Gunite."**

(1) Built a new roof and sidewalls for the penthouse roof at the power plant—65,000 sq.ft. of 2-in. **"Gunite."**

(2) Cooling ponds for condenser water on roof of adjoining building had been built of ordinary concrete and were disintegrating under the action of hot water. This vast pond 875 x 75 ft. was made **watertight** with **"Gunite."**

(3) All columns and girders in power plant (to be encased in brick) were first protected with ½ to 2 in. of **"Gunite."**

(4) Four large basins on the ash floor, each 50 x 125 ft. were made waterproof and heatproof by 2½ in. of **"Gunite."**

(5) Five large steel smokestacks (brick-lined) were raised 50 ft. in height and the new sections lined with 1¾ in. of reinforced **"Gunite."**

(6) Service tunnel connecting the different Ford buildings—10 x 12 x 4000 ft. long, was made permanently watertight with ¾ in. of **"Gunite."**

The Cement-Gun was recommended to the Ford Motor Company for this important work by T. L. Condron Co., their consulting engineers.

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Taylor Engineering Co., 538 Central Building, Seattle, Wash.
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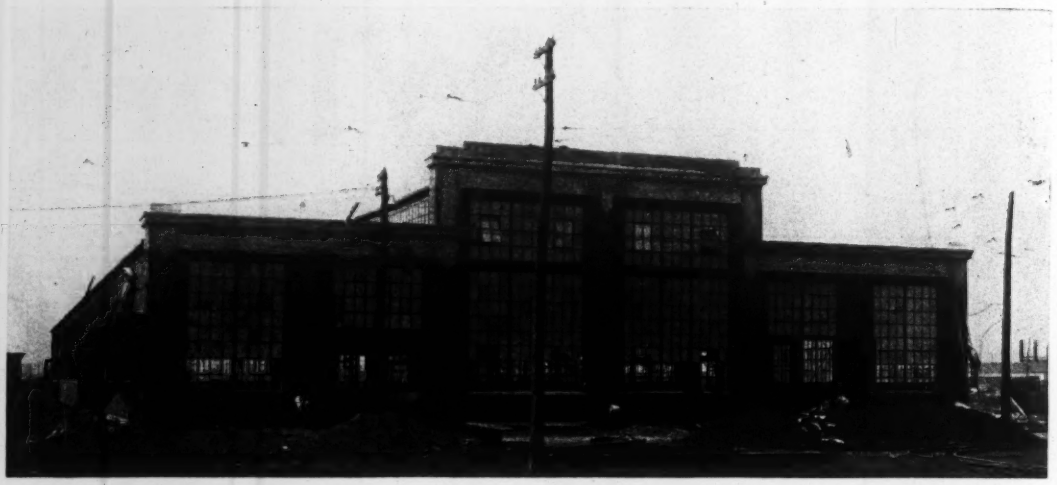
Taylor Engineering Co., Vancouver, B. C.
A. R. Roberts, 727 Traders Bank Building, Toronto, Ont., Canada.

The Cement-Gun can be purchased outright from us and used by anyone. It is not a restricted article.



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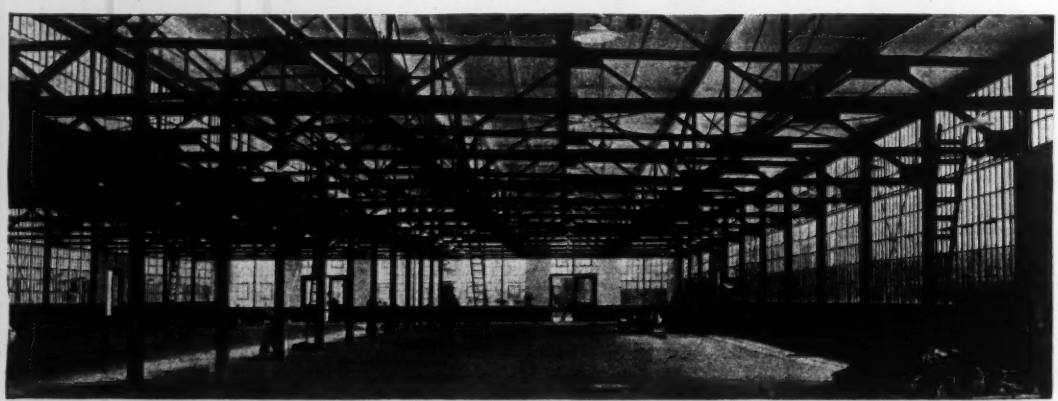

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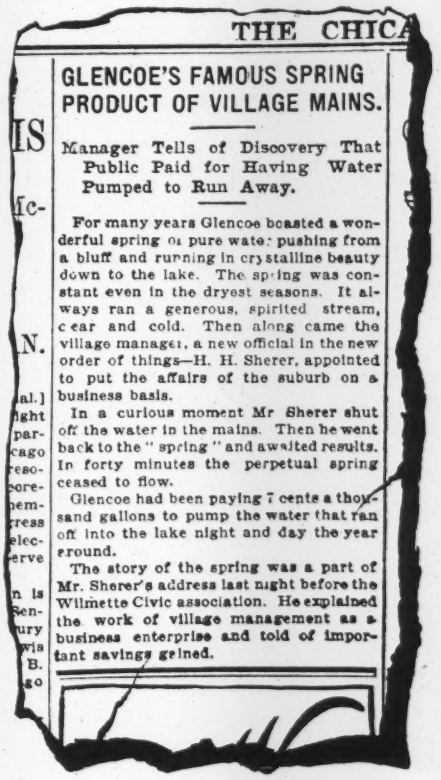
VENTURI

A Venturi Meter Would Have Saved Glencoe Thousands of Dollars



THE CHICA

GLENCOE'S FAMOUS SPRING PRODUCT OF VILLAGE MAINS.

Manager Tells of Discovery That Public Paid for Having Water Pumped to Run Away.

For many years Glencoe boasted a wonderful spring of pure water pushing from a bluff and running in crystalline beauty down to the lake. The spring was constant even in the dryest seasons. It always ran a generous, spirited stream, clear and cold. Then along came the village manager, a new official in the new order of things—H. H. Sherer, appointed to put the affairs of the suburb on a business basis.

In a curious moment Mr Sherer shut off the water in the mains. Then he went back to the "spring" and awaited results. In forty minutes the perpetual spring ceased to flow.

Glencoe had been paying 7 cents a thousand gallons to pump the water that ran off into the lake night and day the year around.

The story of the spring was a part of Mr. Sherer's address last night before the Wilmette Civic association. He explained the work of village management as a business enterprise and told of important savings gained.

Glencoe, Ill., paid dearly for its distinction of having a beautiful spring rushing over a bluff into a lake located in a suburb of the town.

It took years to discover that the source of this perpetual flow came from a break in the water main and that Glencoe had been paying 7 cents per thousand gallons for the privilege of this spectacle.

Contrast this waste due to the absence of reliable measuring facilities with that of the huge saving effected at the village of Ilion, N. Y., where a 12-inch

VENTURI METER

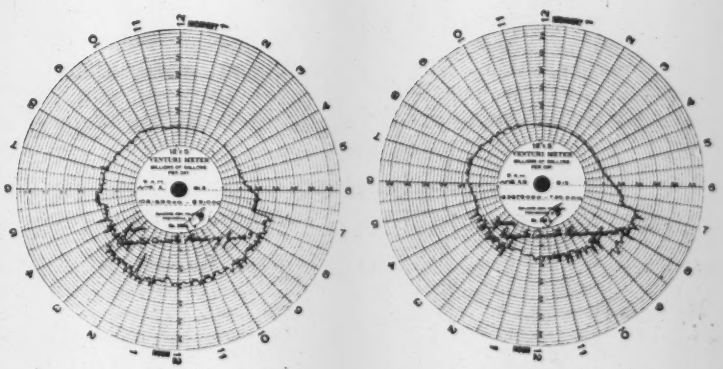
detected almost *immediately* a leak amounting to 160,000 gallons per day.

An investigation was started at Ilion because the Venturi Meter chart showed a sudden increase in the night rate which was considered excessive.

Careful search revealed a large number of leaking taps and fixtures. These were corrected, with the result that four weeks later a daily saving of 160,000 gallons or nearly 18% of the total supply was recorded.

Do you know whether or not your water mains are feeding springs? Venturi Meters will tell you and will place your water distribution economy in the "Ilion Class."

Bulletin No. 84-N gives full details. Address Department "Y."



Two charts from Venturi Meter at Ilion, N. Y., showing how a leakage of 160,000 gallons per day was discovered and corrected.

Builders Iron Foundry, Providence, R. I.

BRANCH OFFICES—25 Church St., New York City. 1704 Oliver Building, Pittsburgh, Pa. The Rookery, Chicago, Ill. N. B. Livermore & Co., Merchants National Bank Building, San Francisco, Calif. Northwestern Equipment Co., 1205 Northwestern Bank Bldg., Portland, Ore. Allen General Supplies, Ltd., Toronto, Canada.

"Does the Work of an Army of Men"

33 American Railways—

spread dirt the Jordan way. On any railway system there's work almost every day for the Jordan Spreader. One man and the train crew are all that's required to operate—

A great money saver on freight yard enlargement, and spreading ballast—indispensable on double track or embankment work. It's the most successful open track snow-plow.

Many American Mines—

Use the Jordan Spreader to spread ore—slag or top soil waste.

Leading Dirt Moving Contractors—

are rapidly discovering that there's only one *best* way of spreading dirt dumped from cars—and that's the Jordan way. Now being used on the Panama, Welland and Calumet Sag Canals and Mississippi River Levee Work.

The JORDAN SPREADER

easily spreads 75,000 cu. yds. per day of slag, rocks, boulders, dirt, debris, clay, ore, coal or sand, at a cost of $00.0005 per yd.

Adjusted to spread material from 14 inches above to 20 inches below top of rail—

Spreads material 21 ft. from center line of track.

Compressed air operation.

Send for Catalog and information.

THE O. F. JORDAN COMPANY

CHICAGO AND KENNEDY AVES., EAST CHICAGO, IND.

Erie Revolving Shovels

"Smile With Me!"

Bill Muldoon Says: "Not long ago the man I consider the greatest editor of our greatest technical journal looked over his boys and girls working in the outer office. He leaned back and smiled—and here's what he said to me:

"'There's no doubt about the advantage of the foreman or manager speaking the language of his foreign employee.

"'But in lieu of such knowledge he can make frequent use of *the universal language—the smile.*

"'The two ideas are fundamental, and so important that they are worth passing on to all employers, even to those who do not employ immigrants.

"'Fair play, the confidence of associates, the disposition toward one's fellows and one's work that displays itself in a smile, will help win in any walk of life.'"

"Good dope, says I. But you don't need to prescribe it to an ERIE SHOVEL user. He comes by his smile *naturally.*

"Take the fellow who had to cross under the Boston "L" tracks with his Erie Shovel for instance: He just let down the stack and slacked away his boom, and was ready right away for 12 ft. 9 in. overhead clearance. The ERIE has a lot more working points you can use in your business.

"Ask any ERIE owner,

"And watch him smile!"

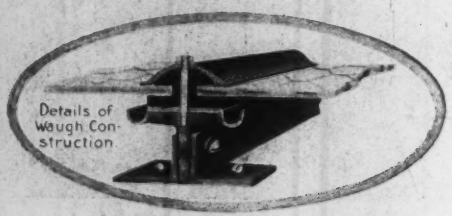
Bill Muldoon.

BALL ENGINE CO.

ERIE PA. U.S.A.

Find out which is the best revolving shovel on the market.

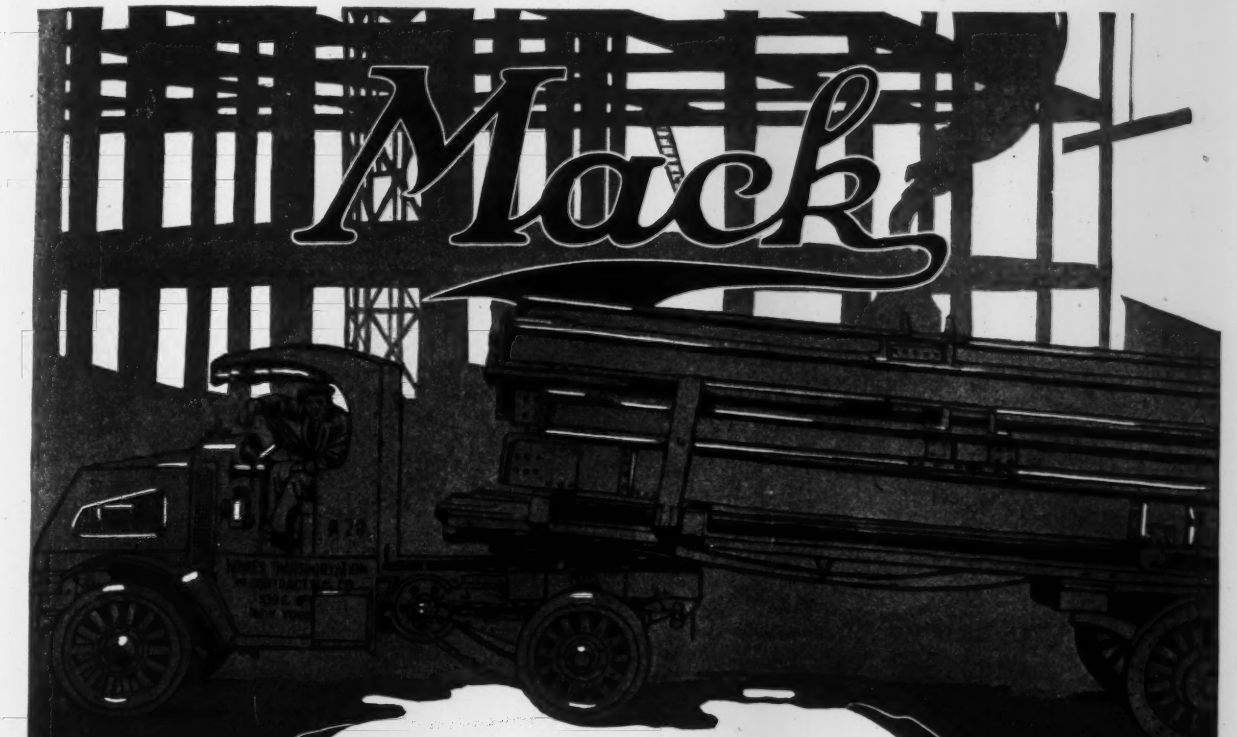
Perfect Service for Public Service rendered by Waugh Glazing Construction



This power plant of the Public Service Corporation of N. J. represents an investment of hundreds of thousands of dollars in valuable machinery alone. Waugh Construction was selected for the skylights over this machinery as well as for other "Public Service" plants because it provides perfect, permanent service.

Bulletin 563 describes and illustrates other important structures upon which Waugh Construction is used.

Asbestos Protected Metal Co.
Pittsburgh.



"You can quote me as saying I wish we had All Mack Trucks"

said Mr. Tobin of the Howes Transportation and Contracting Company

The above Company has two Mack "AC" Heavy Duty Tractors--12 and 15 tons--(embodying the same mechanical features as Mack Trucks.) They are using these Macks for transporting structural steel to the job, pulling the big girders and columns from the docks at 54th Street and North River, New York, up the steep hills in that locality. Mr. Tobin's statement briefly sums up what this Mack owner thinks--an opinion based on *performance.*

Mack heavy Duty Trucks in 3½, 5½ and 7½ tons capacity. With or without dump bodies.

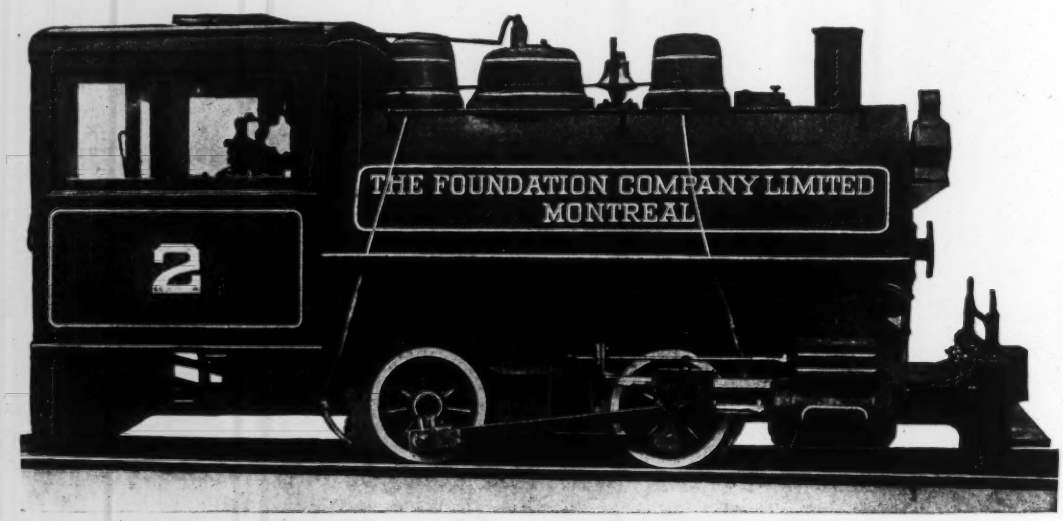
A glance through Mack Catalog No. 4. will show you why Mack Trucks insure maximum *performance.*

International Motor Company

West End Ave. and 64th St.
NEW YORK CITY

Performance Counts

KEEP THE WORK GOING



Nothing is more important in contracting work than the prompt and certain movement of material.

Delays affect the whole work. To avoid delays locomotives must be reliable and always ready for service.

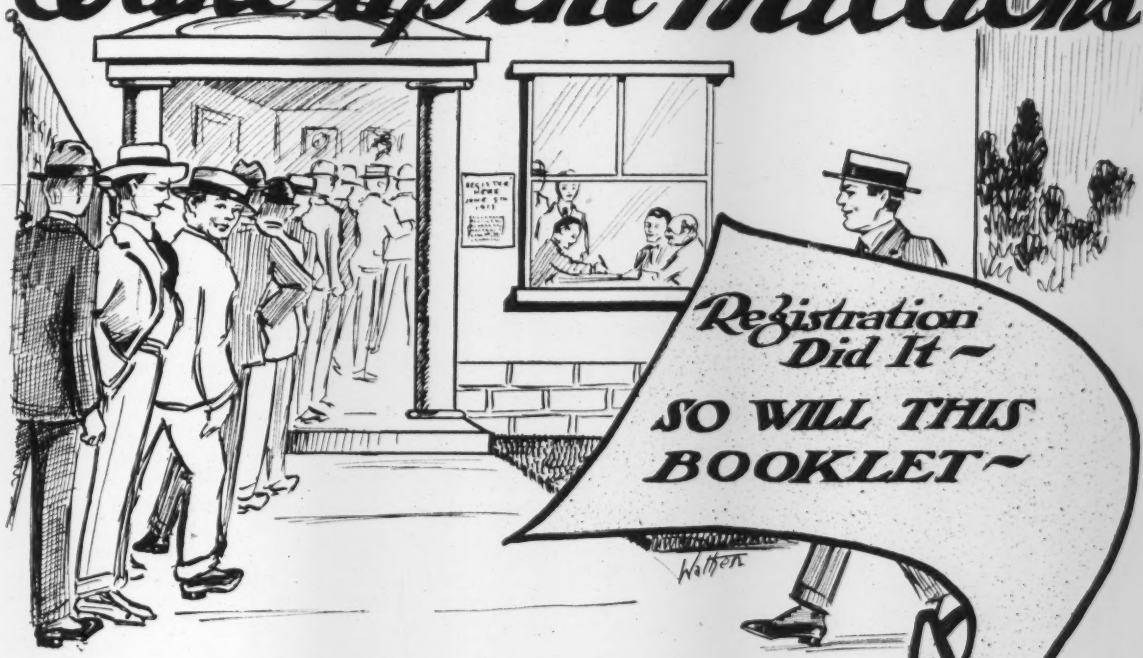
Our standard Contractors' locomotives are built to insure reliability and constant service. Only tested materials are used in their construction. All wearing parts are made to templates and gauges. Interchangeability of like parts is guaranteed, and long delays waiting for duplicate parts avoided, as duplicate parts are kept in stock at our Works for prompt shipment.

AMERICAN LOCOMOTIVE COMPANY

30 CHURCH STREET, NEW YORK

McCormick Building, Chicago, Illinois. A. Baldwin & Company, New Orleans, La.
Dominion Express Building, Montreal, Canada.
N. B. Livermore & Company, San Francisco and Los Angeles, California.
Northwestern Equipment Company, Seattle, Wash., and Portland, Oregon.

Wake up the Millions!



This country is at war—yet thousands—hundreds of thousands would not realize it—it took the definite action of registration day—the unaccustomed walk from home to poling place—the answering of questions—to make them realize that a foe lurked at our very doors.

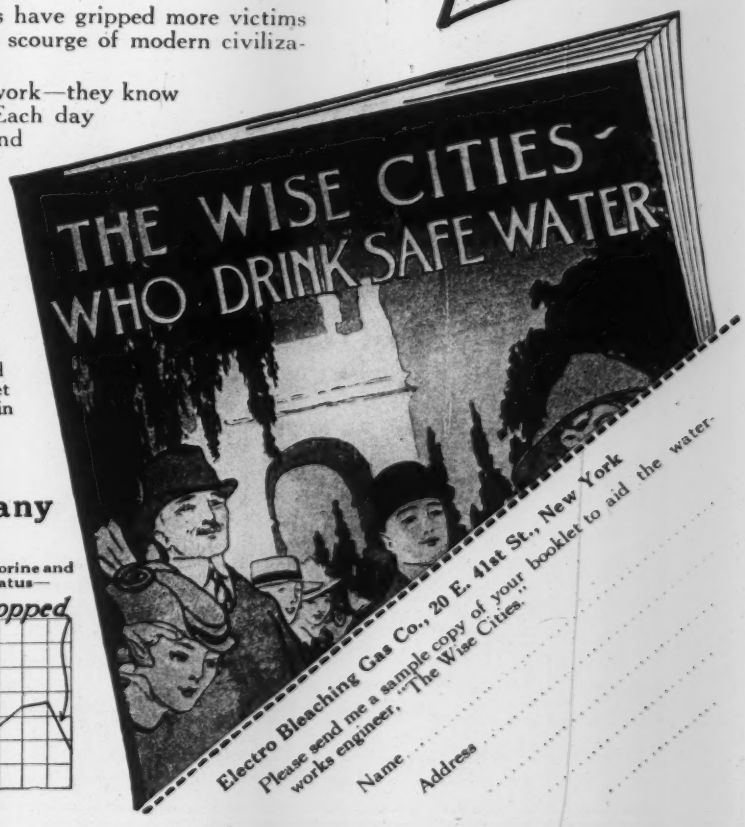
And so with that enemy whose talons have gripped more victims than many wars—"TYPHOID"—the scourge of modern civilization.

Multitudes will not realize its deadly work—they know not how to count its frightful cost. Each day they fight all efforts for pure water and lessening disease—they are content to cast their lot with death.

They must awake! And this booklet will make them. It is for your use—to give to alderman—influential citizens—taxpayers who now fight the small cost of liquid chlorine and a pure water supply—because they cannot realize what this protection means in *dollars and cents.*

This booklet is non-technical—it is highly interesting and it calls the count on Typhoid at every turn. Get copies of this booklet—let it help you awake the millions to the profit in elimating B. Coli.

Copies are free—mail the coupon for a sample—NOW.



Electro Bleaching Gas Co., 20 E. 41st St., New York

Please send me a sample copy of your booklet to aid the water-works engineer, "The Wise Cities."

Name .....

Address .....

Electro Bleaching Gas Company

Manufacturers of Liquid Chlorine and the apparrtus for applying it.

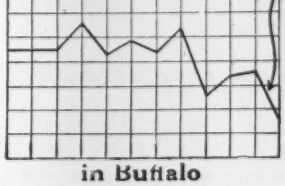
20 East 41st Street, New York

Branch Office: Lumber Exchange Bldg., 12 La Salle St., Chicago

Pacific Coast Representative, California Jewell Filter Co., Merchants Exchange Bldg. San Francisco. Canadian Representative, General Supply Co., Ltd., Ottawa, Toronto, Montreal, Winnipeg.

In Buffalo—Liquid Chlorine and E. B. G. Co. apparatus—

-and typhoid *dropped*



in Buffalo

Bethlehem Steel Company

General Office: South Bethlehem, Pennsylvania

Announces the purchase of the property and plants of the **American Iron and Steel Manufacturing Co.,** located at **Lebanon** and **Reading, Pa.,** which, with the **Bolt and Nut Department** at **Steelton,** gives a complete range of sizes and variety of bolts and nuts,

We solicit your inquiries and assure prompt attention to your orders, and ask you to communicate with our nearest **Branch Office.**

We are prepared to furnish:

Bolts
Machine, Carriage, Lag, Plow, Patch and Track

Nuts
Hot Pressed, Cold Punched, Forged, Finished, Case Hardened and Castle.

Rivets
Boiler, Bridge, Structural, Ship, Tank and Tap.

Spikes
Standard R. R., Screw Track, Universal Screw, Boat, Dock and Wharf.

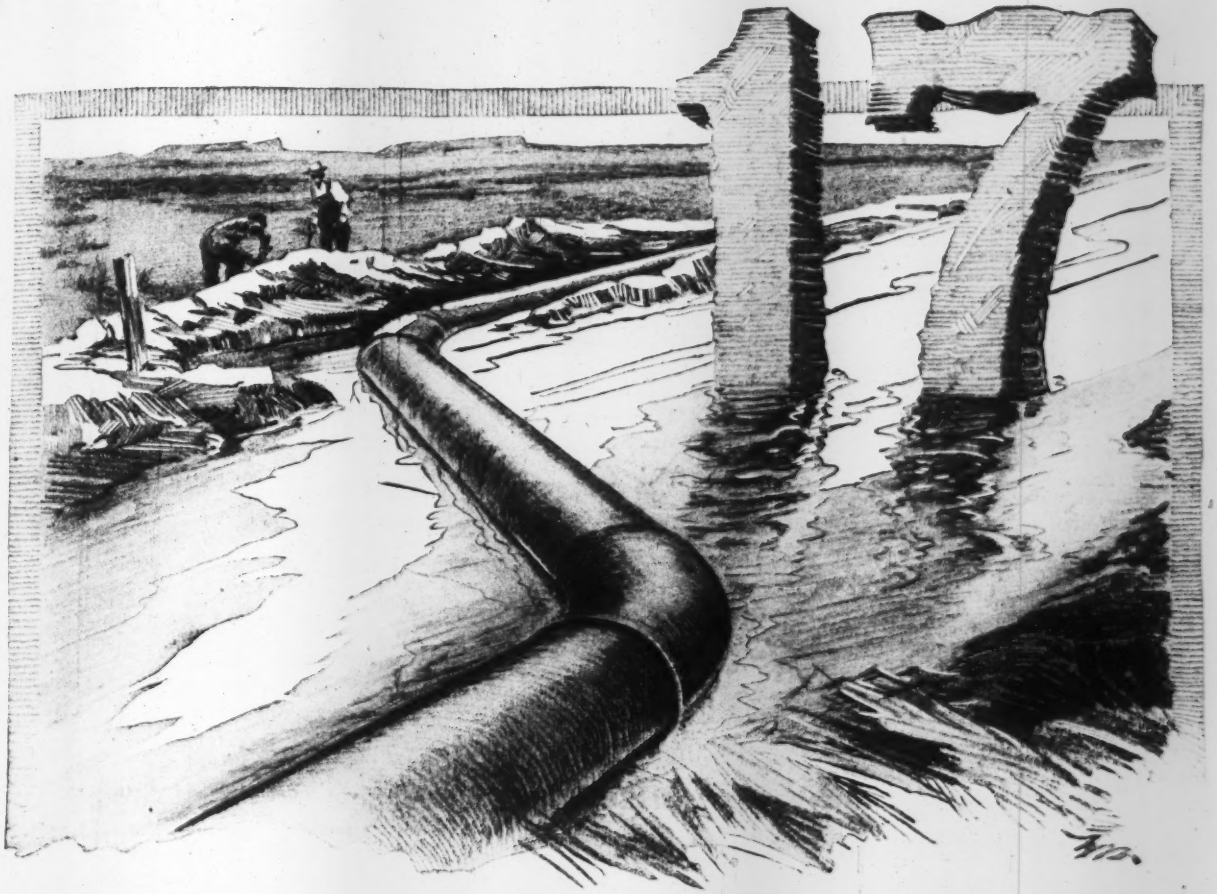
Bar Iron
Refined, Chain, Double Refined, Engine Bolt, Staybolt and Special Staybolt.

Heat Treated Track
Frog and Fitting up Bolts in **Simple Alloy** and **Mayari** Steels.

Branch Offices:

Atlanta	Candler Building	New York	Trinity Building
Boston	Oliver Building	Philadelphia	Morris Building
Baltimore	Continental Building	Pittsburgh	1st Natl. Bank Building
Cleveland	Guardian Building	St. Louis	Boatmen's Bank Building
Chicago	Peoples Gas Building	San Francisco	Crocker Building
Detroit	Penobscot Building		

Warehouses: South Bethlehem, Lebanon, Cleveland, Boston



AID No. 4
(*of the 17 Michigan Water Service Aids*)

Wet Trench Never Halts

MICHIGAN Combination Steel and Wood Water Pipe

"Steel for Strength—Wood for Durability"

Any water-service man who has tackled a wet trench with sheeting and pumps and *then*—tied up because high water stopped the caulkers—can appreciate this service-aid of MICHIGAN PIPE.

You can lay it in a wet trench.

For there is no caulking required and you can lay a MICHIGAN PIPE line with common labor. Accurately turned mortise and tenon joints are quickly fitted and rammed home with a plain wooden ram.

You can make *speed*—in pipe-laying—even in a wet trench.

A word from you brings full data on the 17 service aids of Michigan Pipe.

Here are FIVE of the SEVENTEEN

(1) More than 40 years' service have proven its DURABILITY.

(2) FROSTPROOF—Pressure of internal ice never burst Michigan Pipe.

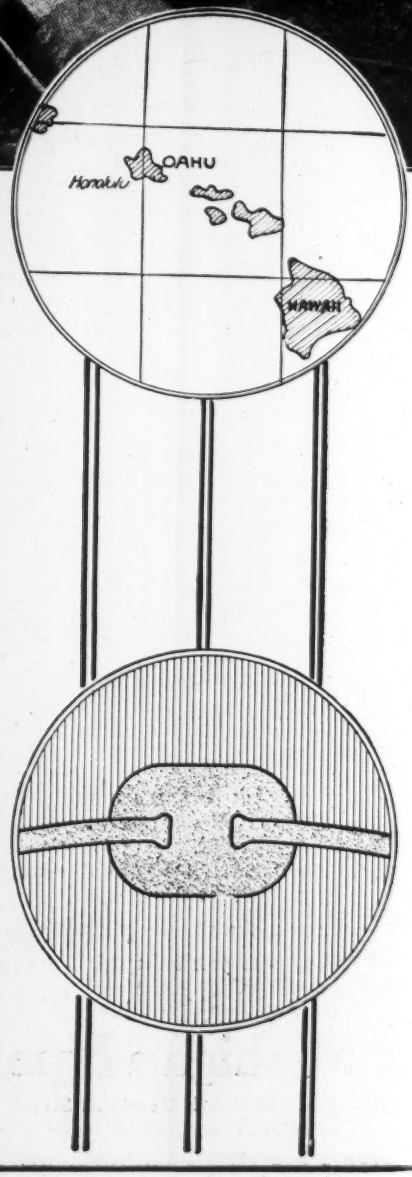
(3) PROOF AGAINST CORROSION—Chemical plants use it.

(4) LAID WAIST DEEP IN WATER.

(5) Watch this page next week or—**Write now for the latest Michigan Handbook.**

The Michigan Pipe Co., Dept. 17, Bay City, Mich.

Chicago, 203 South Dearborn Street Boston, 93 Broad Street New York, 30 E. 42nd Street
319 Hamilton National Bank Bldg., Chattanooga, Tenn. 412 Security Bldg., Galveston, Texas



This Picture Was Taken Nine Years ago —in OAHU

Oahu is the one of the Hawaiian Islands on which Honolulu is located.

The picture you see shows an 8000 ft. pipe line built back of Honolulu in 1908.

5600 miles from home—the pipe had to be of material that would not require repairs.

That's why

LOCK BAR STEEL PIPE

was used. The engineers knew the extra safety in the Lock Bar Joint—which is 100% efficient or in other words develops 100% of the strength of the plate.

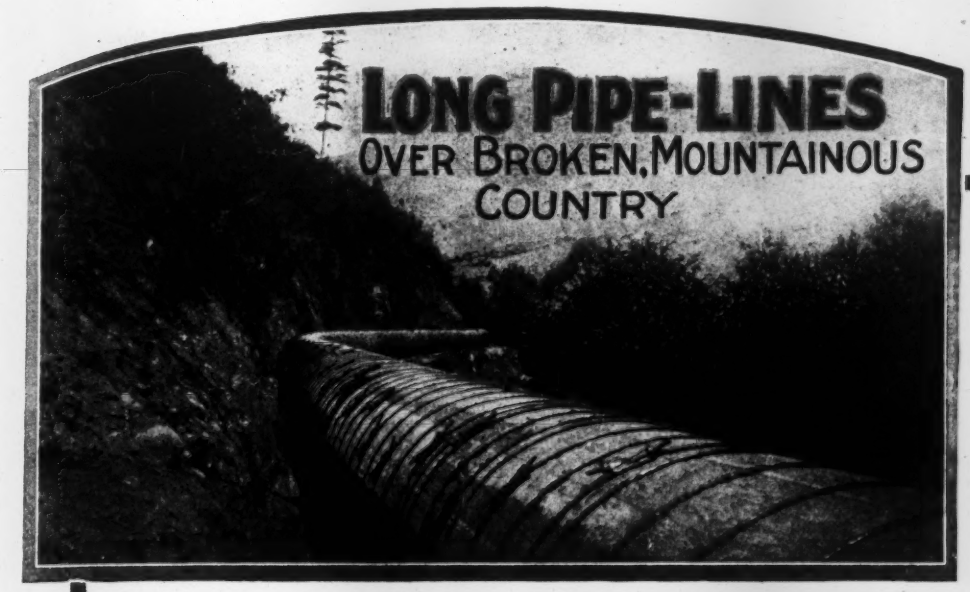
The use of Lock Bar Steel Pipe also *saved money*—for the joint efficiency guards against the purchase of useless metal.

Some of our data on low per year costs on city and private projects will prove very interesting. Tell us something about your proposed work and we'll send some startling information.

EAST JERSEY PIPE CORPORATION

Fulton and Church Sts., New York City

Works: Paterson, N. J.



Present small difficulty when Pacific Wood Pipe is used

Pacific Wood Pipe

is made of either Redwood or Douglas Fir, as the purchaser desires and the occasion demands. That it is wood pipe in its highest form is attested by the installation of hundreds of thousands of feet every year for the past 30 years.

Is cheaper than steel, wrought or cast iron pipe.

Exceeds steel and wrought iron pipe in durability, classes with cast iron pipe.

Is preserved by water, not rusted.

Is not corroded by sulphur, salt or mineral water or fumes.

Is not destroyed by acids or salts.

Has greater carrying capacity.

Does not burst when frozen.

Can be laid in shallower ditches, or exposed.

Requires less labor to lay.

We solicit the opportunity to have our engineers show you how to get a better, less expensive pipe—in any diameter from 2 inches to 14 feet. Write us.

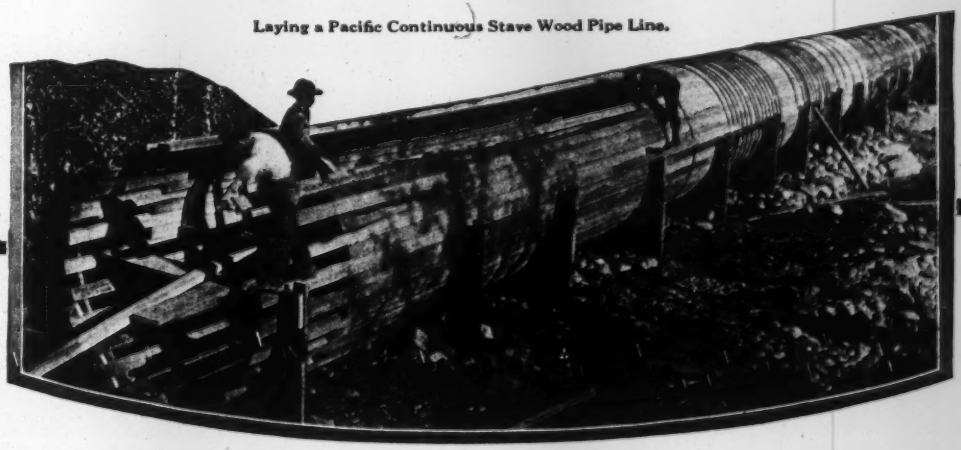
Also Pacific Tanks.

PACIFIC TANK AND PIPE COMPANY

308 Market Street, San Francisco, Cal.

905 Trust and Savings Bldg., Los Angeles, Cal.

Laying a Pacific Continuous Stave Wood Pipe Line.



Guess-Work

PERHAPS there was a time when guess-work served the purpose.

When industrial services consumed approximately the same amount of water month after month, and year after year, estimates or partly efficient meters may have been all right.

But now—when the factories of the nation are meeting abnormal war-time demands in addition to caring for a booming home trade and a fast-growing export business—when the amount of water *needed* has doubled and trebled and the incentive to *careless waste* has correspondingly increased—guess-work won't do!

To prevent a water-loss and a money-loss far exceeding the cost of installation, meters—efficient meters—are demanded.

Large meters are now a necessity!

In Trident-Disk, Trident-Crest, Trident-Compound and Trident-Protectus Meters, you have dependable revenue-producers. Order now to secure speedy delivery.

NEPTUNE METER COMPANY

Trident Water Meters The Weber Subterranean Pump

50 East 42nd St., New York City

Branches:

Atlanta
Chicago
Seattle
Boston
Denver
Portland
Cincinnati
Los Angeles
San Francisco

WORTHINGTON CORPORATION

Worthington and Laidlaw Pumps for Elevator Service —Boiler Feeding —Brine Pumping

The Broadway Department Store
Los Angeles, Cal.

The Broadway Store is a modern nine-story structure with basement and sub-basement, covering eleven acres of floor space.

Its elevator service consists of thirteen passenger, and four freight cars. The passenger cars have a speed of 425 feet per minute; the freight cars, 110.

The Pumping Engine for elevator service is a **Laidlaw** three cylinder, 20 x 25 x 25 x 13½ x 24, furnishing 2400 gallons per minute for the seventeen cars.

Night and Sunday service is furnished economically by two **Worthington Turbine Pumps**, each a 6 in. three stage, direct connected to a 200 H.P. Westinghouse motor. The pumps each have a capacity of 1300 G.P.M. against 175 lb. pressure. These pumps are said to be the largest turbine elevator pumps in use in this country. Their large capacity was the direct reason for the choice of an exactly similar unit for the Bullock Department Store, Los Angeles.

Other Worthington Pumps in the Broadway Department Store are: two 6 x 46 Duplex Boiler Feed Pumps; one 6 x 4 x 6 Duplex Pump for brine pumping.

The excellent service obtained from these Worthington Products furnishes an example of units whose design, construction and performance record is strikingly adequate to the conditions of service.

Back of this and many other notable installations, lies a ripe and valuable experience in the manufacture of hydraulic machinery, which is freely offered to engineers who have pumping problems.

On request, we will send bulletins covering any or all types of pumps, condensers, air compressors, water meters.

WORTHINGTON PUMP AND MACHINERY CORPORATION
115 Broadway, New York
Branch Offices in all Principal Cities 148.8

Steel for Service

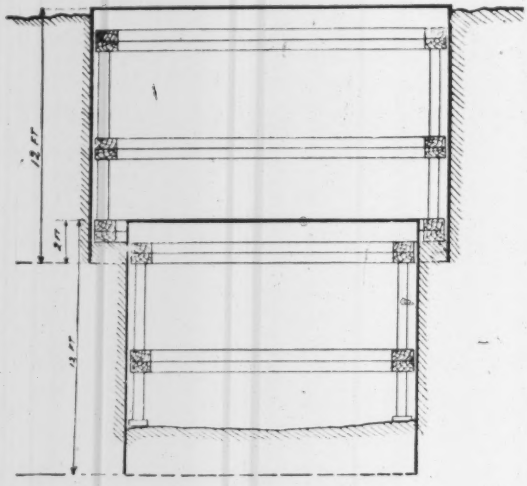


Fig. 1

The constant and usually heavy traffic in the streets of large cities necessitates the best possible protection for the banks of excavations.

Fig. 1 shows the design of bracing used by the Underpinning and Foundation Company on Section 2, Route 20, of the New York Subway.

Fig. 2 is a photograph of a portion of the installation.

United States Steel Sheet Piling

was used in this work to which it is admirably adapted.

This, however, is only one class of work where it is constantly being used with marked success.

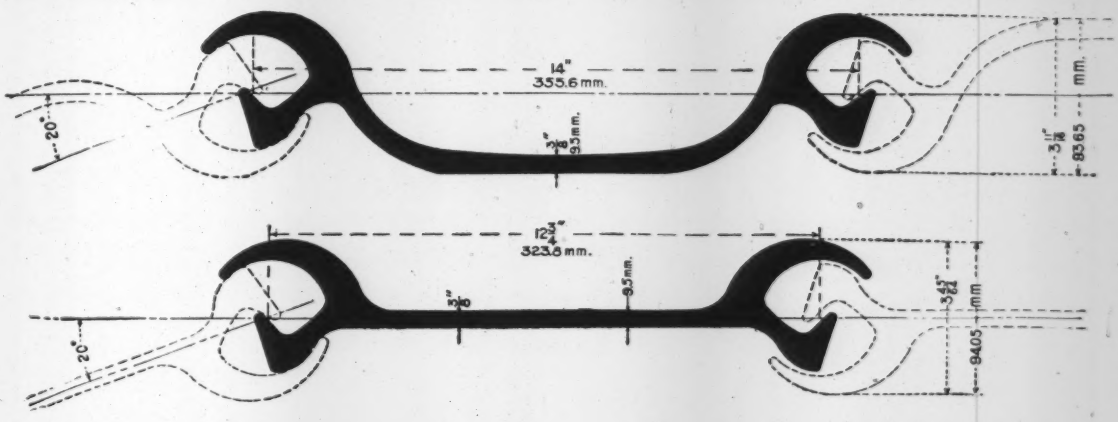
Literature issued by this company and which can be obtained from any district office, describes the use of this type of piling in construction operations from those of simple character to some of the most difficult ever attempted and which, a comparatively few years ago, could not have been carried on except by methods much more costly and in some cases prohibitive.

Fig. 2

Carnegie Steel Company

General Offices, Pittsburgh, Pa.

892



Somewhere in U. S. A.

a dry-dock is being built to take its vital part in the program of Uncle Sam.

Speed was necessary, of course—the utmost despatch in preliminaries and execution. The emergency demanded tried and proven time- and labor-saving methods—and the contractors turned with the confidence of experience to

Lackawanna Steel Sheet Piling

—and upward of 2000 tons of the Lackawanna Sections will be utilized in building the huge cofferdam in record time.

The unequaled transverse strength of the Arched-Web types, and the flexible, free, water-tight, three-point interlock render the Lackawanna Piling Sections ideal equipment for speedy, secure, economical cofferdam or trench work.

And it's easily pulled for the next job.

If you're building drydocks or shipways, retaining walls or bridges, ask us how Lackawanna Steel Sheet Piling can save you time and money.

Our engineers wrote the book "Lackawanna Steel Sheet Piling," which is yours if you are interested.

Lackawanna Steel Company

General Sales Office and Works: Lackawanna, N. Y.

ATLANTA	BUFFALO	CINCINNATI	DETROIT	PHILADELPHIA	SAN FRANCISCO
BOSTON	CHICAGO	CLEVELAND	NEW YORK	ST. LOUIS	HAVANA

Licensees for the manufacture of Lackawanna Steel Sheet Piling:

For Great Britain and British Colonies in the Eastern Hemisphere, Cargo-Fleet-Iron Co., Ltd., Middlesbrough, England. For France, Italy, Spain, French Colonies and Protectorates, Italian Colonies and Spanish Colonies in the Eastern Hemisphere: Cie Des Forges & Aciéries de la Marine et d'Homécourt, Paris, France.

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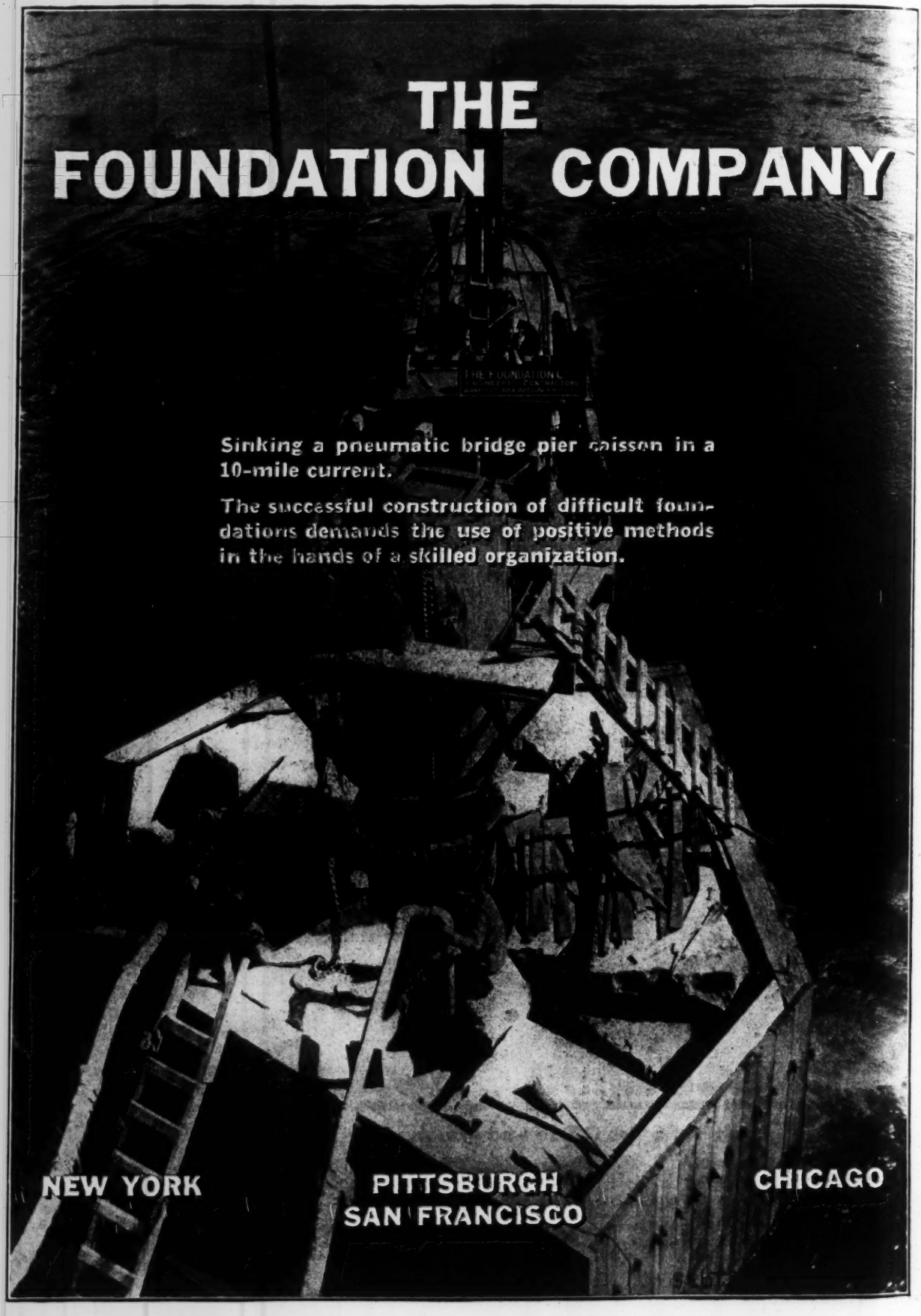

THE
FOUNDATION COMPANY
Sinking a pneumatic bridge pier caisson in a 10-mile current.
The successful construction of difficult foundations demands the use of positive methods in the hands of a skilled organization.
NEW YORK
PITTSBURGH
SAN FRANCISCO
CHICAGO

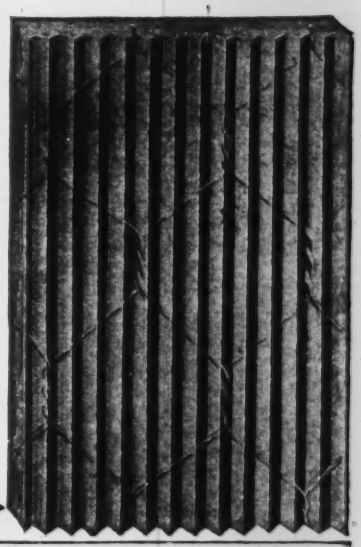
Daylighted means Delighted

with

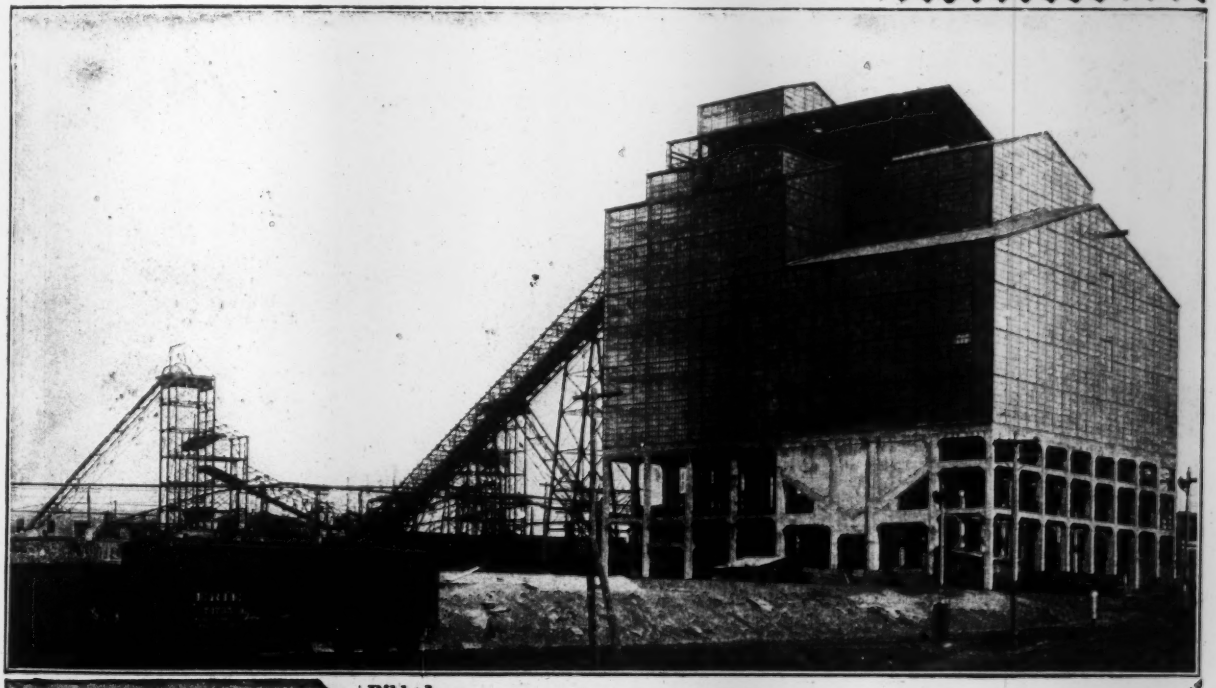
Mississippi Wire Glass

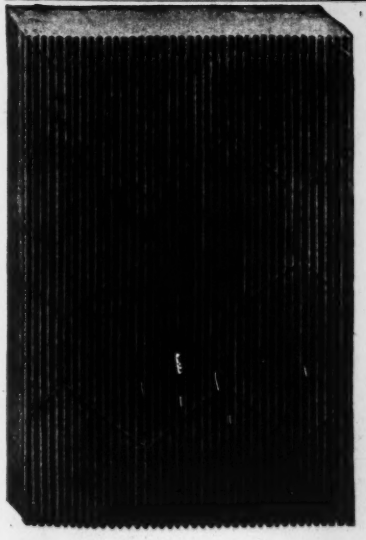
D.L. & W.R.R. Co.'s Loomis Breaker at Nanticoke, Penn., which is glazed with wire glass covering 93.5 per cent. of the surface.

"DAYLIGHTED WITH WIRE GLASS" is practical and essential for economical management of industrial plants.



Pentecor Wire Glass →





← Ribbed Wire Glass

You are interested in minimum cost of maintenance. Be prepared, be posted, be familiar with Wire Glass. The attached coupon entitles you to descriptive catalog and Wire Glass paper weight. Kindly attach coupon to company letterhead if possible.

Mississippi Wire Glass Co.
218 Fifth Avenue
New York
Chicago St. Louis

Mississippi Wire Glass Co.,
218 Fifth Ave., New York.

Gentlemen: Send me a Catalog and Wire Glass Paper Weight as advertised in Engineering News-Record. It is understood this does not obligate me in any way.

Name .....

Address .....

Insley Counterweighted Chute

for use in connection with

Gravity Plants for Concrete Distribution

Insley Counterweight Chute as used by McDonald & Kahn, San Francisco

The Insley Counterweight Chute, made in 30, 40 and 50 foot lengths, makes it possible to pour concrete anywhere within a 100 foot radius with a tower-supported chute plant. The elimination of both overhead suspension cables and floor supports provides a flexibility of operation which results in a marked lowering of the task of placing concrete.

Write for particulars.

INSLEY MFG. CO. Engineering Manufacturers **Indianapolis**

New York	Columbus	Milwaukee	Cleveland	Omaha	Louisville	San Francisco
Pittsburgh	St. Paul	Boston	Detroit	Cincinnati	Seattle	Kansas City
St. Louis	Philadelphia	Duluth	Denver	Buffalo	Chicago	Salt Lake City

"They Can't Slip—See the Ribs"

This peculiar rib construction, found only in Corrugated Bars, makes it impossible for them to slip in the concrete when under stress.

To combine greater safety and permanence with your concrete construction, use

Corrugated Bars

Round or square bars; standard sizes, cut to any length from stock carried in Chicago, St. Paul, St. Louis, Youngstown, Atlanta, Philadelphia, Boston and Buffalo.

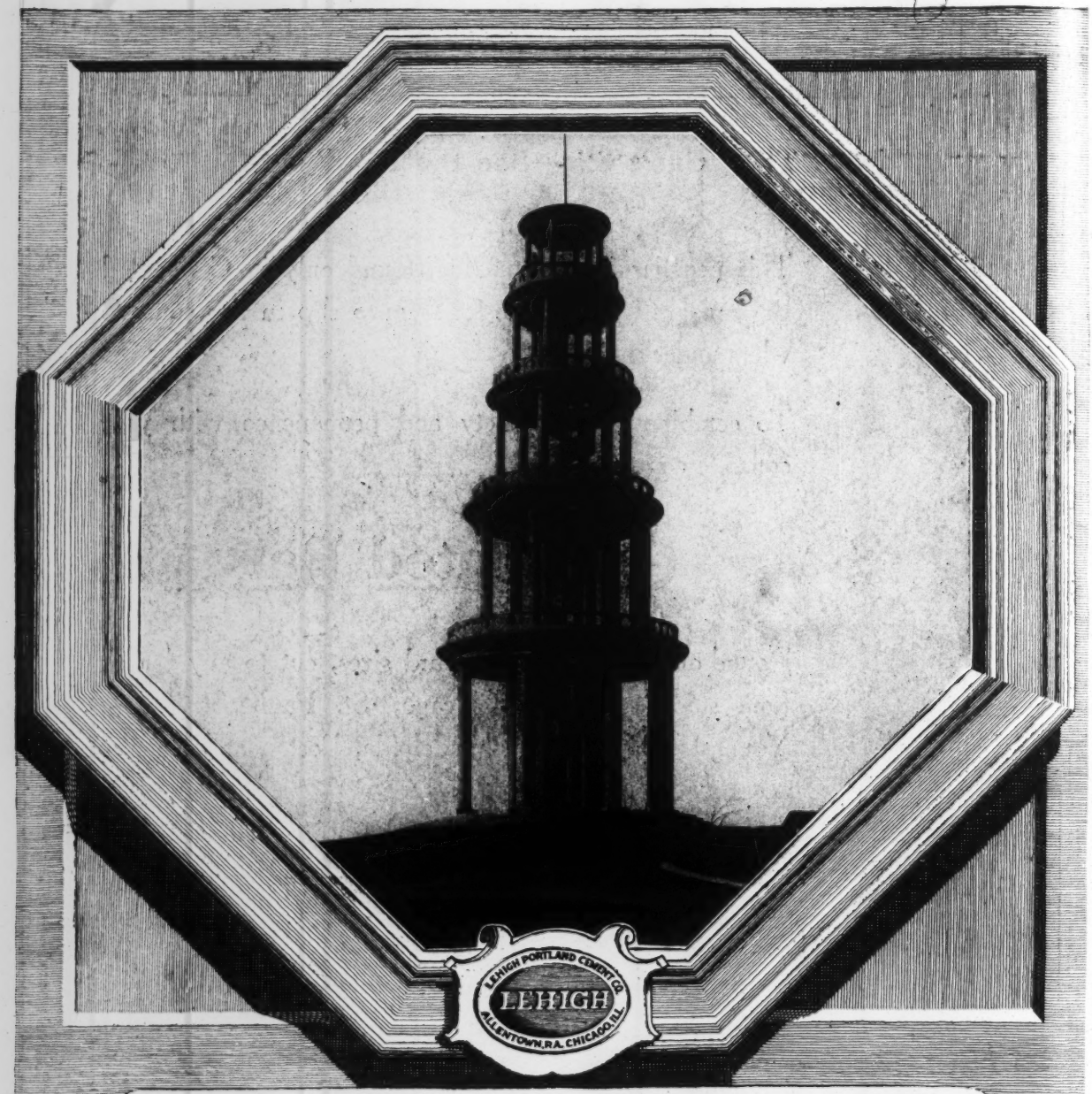
Prompt Shipments

In writing for information, please state your building requirements and give names of your architect and contractor. Please use business letterhead or enclose card.

CORRUGATED BAR CO.

Mutual Life Bldg. **Buffalo, N. Y.**

New York	Boston	Philadelphia	Syracuse
Chicago	St. Louis	Detroit	Milwaukee



MONUMENT AT GEN. LOGAN'S HEADQUARTERS, VICKSBURG NATIONAL MILITARY PARK
LEHIGH CEMENT USED

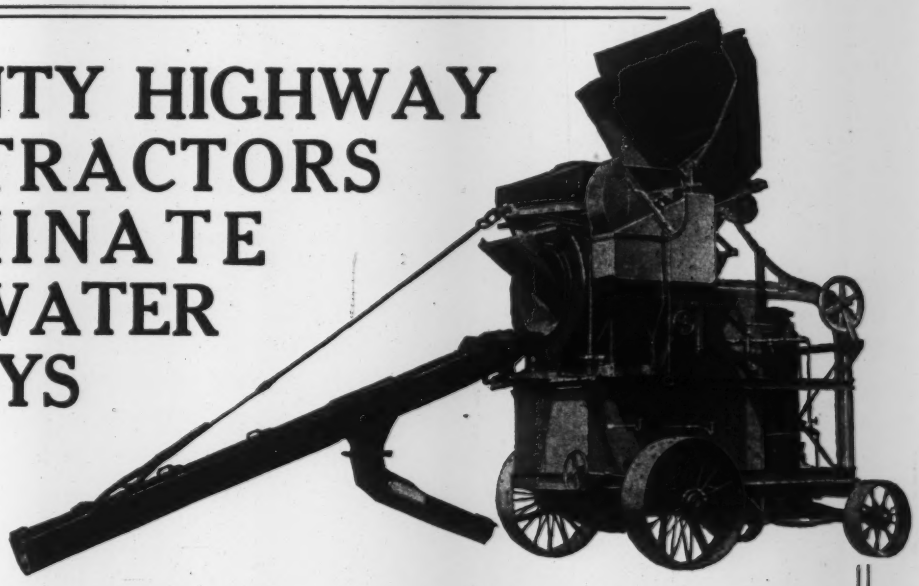
LEHIGH CEMENT

Concrete is one of the most adaptable of building materials. By the use of ornamental forms structures of every type may be beautified at so little expense that the neglect of aesthetic value even in commercial work is poor economy.

LEHIGH PORTLAND CEMENT COMPANY
Member of the Portland Cement Association
CHICAGO, ILL. ALLENTOWN, PA. SPOKANE, WASH.

COUNTY HIGHWAY CONTRACTORS ELIMINATE ALL WATER DELAYS

WITH THE



Smith-Chicago H-D Pavers

An abundance of material on hand, a well-trained gang loading the mixer at top speed, the paving mixer leaving a trail of well-mixed concrete behind it, rosy dreams of big profits and then it happens—the whole gang idle because the stream of water from the pipe line dwindled away to a few drops and then stopped. Ten minutes' delay and things again begin to hum—but ten minutes were lost absolutely. Golden dollars slipped out of your hands—and this happens not once but frequently.

The answer to this problem is securely fastened to the frame work just over the mixer drum on the fast, one-man Smith-Chicago High-Drum Paver—a RESERVE TANK holding enough water to take care of SEVEN batches of concrete, enough to keep the gang going while the usual pipe line trouble is overcome.

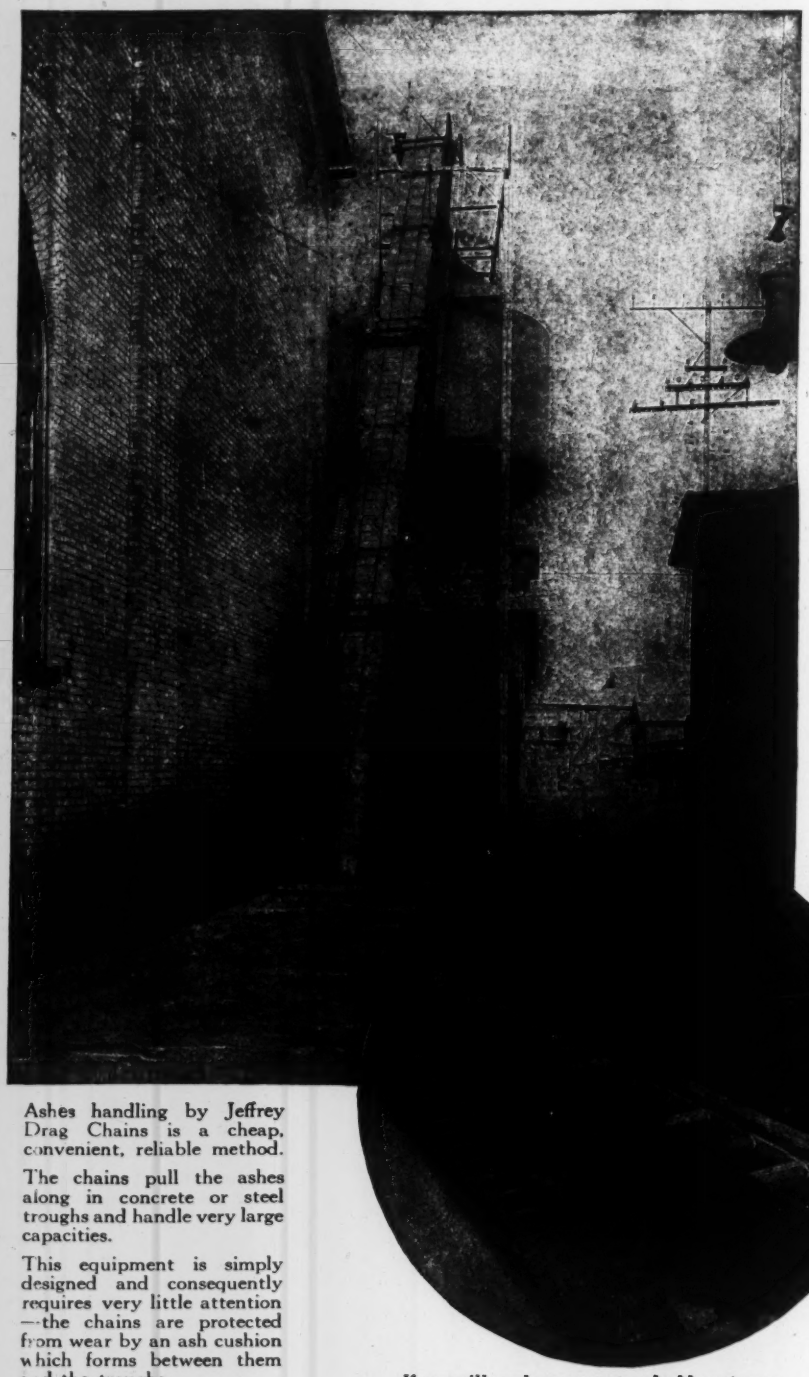
That isn't all that makes the S-C High-Drum Paver of immense value to the highway contractor. There are NINE other BIG FEATURES that this machine has, not more than one or two of which are found on other types of pavers. Read the whole story in our BIG, NEW CATALOG.

Ask for S-C Catalog No. 72-H

THE T. L. SMITH COMPANY

3104-H Hadley Street
MILWAUKEE, WISCONSIN

SMITH-CHICAGO HIGH-DRUM PAVER



—and then Up

Ashes in the Power House of the American Iron & Steel Mfg. Co., Lebanon, Pa., are carried along in a trough from under the Murphy Stokers by a

JEFFREY
RELIANCE DRAG-CHAIN ASH CONVEYER

—and then up by a 70 ft. Jeffrey elevator to the ash bunker.

This simple system, designed and installed by R. H. Beaumont Company of Philadelphia, and built by us gives the American Iron & Steel Co. an independent ash handling system at low cost.

The Ash Conveyer can be operated and watched from the boiler room above.

We build complete equipment for either coal or ashes handling and equipment combining both functions —all are made from Jeffrey **Standard Units** and you thus obtain special equipment at **standard** prices.

Ashes handling by Jeffrey Drag Chains is a cheap, convenient, reliable method.

The chains pull the ashes along in concrete or steel troughs and handle very large capacities.

This equipment is simply designed and consequently requires very little attention —the chains are protected from wear by an ash cushion which forms between them and the troughs.

A great variety of conditions can be met by adopting our standard units to the work.

If you will send your name and address to our Dept. 23, mentioning this ad, we will be glad to send you complimentary copies of two bulletins describing individual installations of Jeffrey Drag Chain Ashes Handing Equipment.

The Jeffrey Mfg. Company
923 North Fourth St., Columbus, Ohio

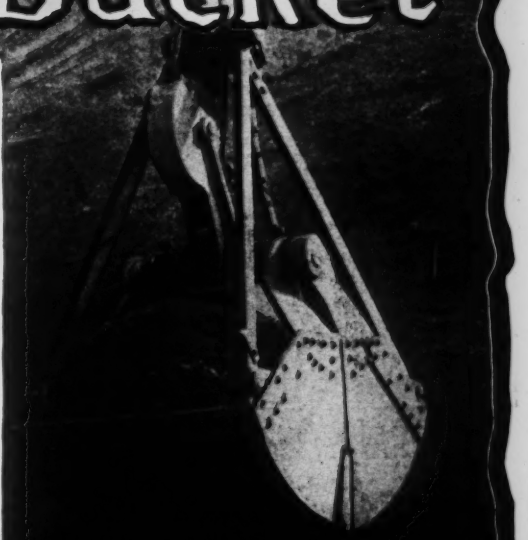
New York
Boston
Philadelphia
Cleveland

Scranton
Pittsburgh
Charleston, W. Va.
Chicago

St. Louis
Birmingham
Dallas
Milwaukee

Denver
Seattle
Montreal

The Blaw Bucket



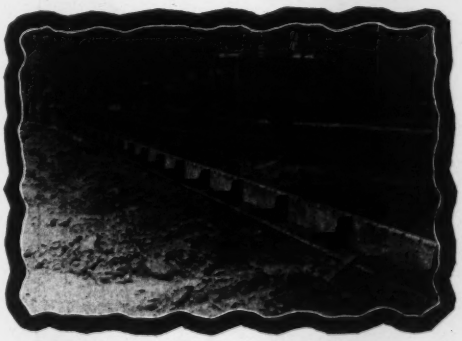
Proper distribution of the weight gives the Blaw Bucket the digging power to grab a full load every time.

The Blaw design has eliminated all unnecessary weight from the head. Over 90 per cent. of the weight is below the main hinge pin when the bucket is open.

That *concentrates* the weight directly on the cutting edges. That's why the Blaw Bucket drives deep—why it has the digging power to fill—from the most stubborn material any bucket can handle.

In stock for prompt shipment are Blaw Buckets for every purpose.

Write us about *your* requirements. We can fill them.



A single outfit of Blaw Steel Forms will handle an indefinite length of Sidewalk, Curb-and-Gutter and Road. Blaw Steel Forms last a lifetime.

Blaw Column Molds give a smooth, even surface, practically eliminating all refinishing. Better work—at lower costs—is done with Blaw Steel Forms.

Blawforms

PATENTED

will cut costs on almost every type of concrete job.

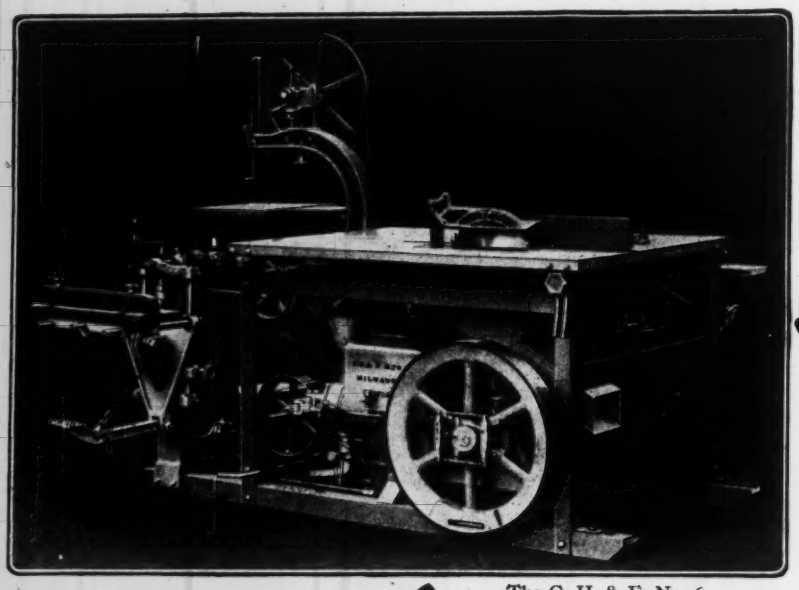
Unskilled labor can move and set up Blaw Steel Forms in far less time than highly skilled men can handle wooden forms. Moreover, Blaw Steel Forms are practically indestructible. They will pay for themselves—in the saving of labor and lumber—on a single fair-sized job. And the same forms are then ready for the next similar job—ready to pay big returns.

Tell us what your job is. We have cut costs on over 20,000 contracts—we can cut costs for you.

Blaw Steel Construction Company

600 Farmers Bank Building - Pittsburgh, Pa.

New York—165 Broadway
Boston—6 Beacon St.
Chicago—Peoples Gas Bldg.
San Francisco—Rialto Bldg.



The C. H. & E. No. 6 Portable Saw Rig

ASK

Cramp & Co. Philadelphia, Pa.
Westinghouse Church Kerr Co., New York City
Geo. A. Fuller Co., New York City
O'Brien Construction Co., Syracuse, N. Y.
Dahlman Construction Co., Milwaukee, Wis.
U. S. Government
Warren Moore Co., Philadelphia, Pa.
And many others. Over three thousand Portable Saw Rigs now in active use.

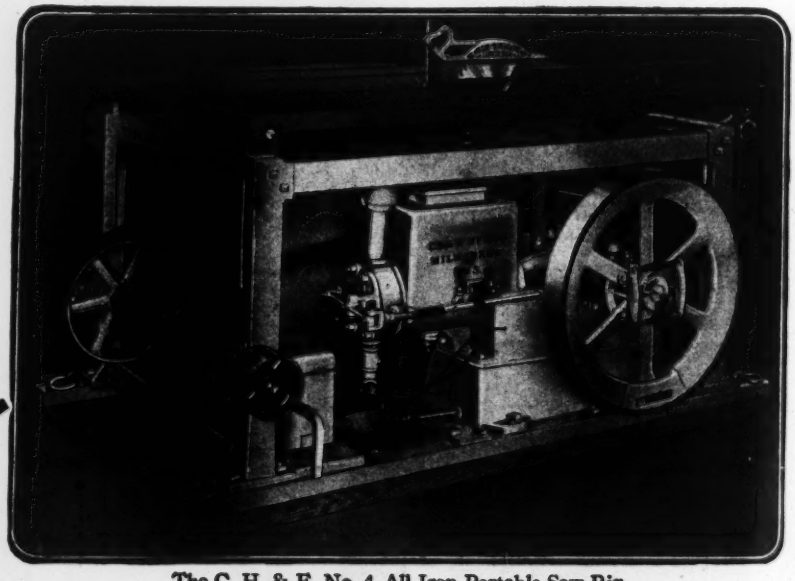
Also Pumps, Hoists, Mortar Mixer, Engines

C. H. & E.
PORTABLE SAW RIGS

will help you. Labor is a big item on all your construction work. You can make every contract a bigger profit-payer and handle more jobs, if you will put some part of the C. H. & E. line of Contractors' Equipment to work for you.

IMMEDIATE SHIPMENT

Write for large, new, C. H. & E. catalog just off the press, that tells you all about these Saw Rigs—gives you a full description of each and every attachment.



The C. H. & E. No. 4 All Iron Portable Saw Rig

C. H. & E. Manufacturing Company, Inc.

500 Clinton Street Milwaukee, Wis.

Cooperative Service to the Export Buyer

THE ALLIED CONSTRUCTION MACHINERY CORPORATION is a cooperative selling organization. It is under the management and direction of the American International Corporation, the largest financial organization in the United States devoted to the promotion of foreign trade. Participating with this financial interest is a group of non-competing American manufacturers who have turned their export business over to a common sales force.

The Allied Construction Machinery Corporation is that common sales force. It is neither an agency nor an intermediary—it is essentially a part of each of the several interests which have formed it.

Its cooperative sales plan offers many advantages. Among them are:

The foreign buyer who deals with it is dealing directly with a group of manufacturers.

The buyer can secure from this single export sales organization a complete line of construction machinery, backed by undivided responsibility for shipments, credits and guarantees.

The buyer deals with a sales organization of engineers experienced in the use of construction machinery. These engineers are qualified to recommend the class of equipment best adapted to the buyer's requirements. Since it sells a complete line, its recommendations are unbiased.

The foreign buyer of American construction equipment can secure these advantages only by purchasing from the Allied Construction Machinery Corporation.

The following manufacturers have joined this cooperative sales plan in all countries outside of the United States and Canada:

The Lakewood Engineering Company, Cleveland, Ohio
The Thew Automatic Shovel Company, Lorain, Ohio
The Parsons Company, Newton, Iowa
The Hydraulic Pressed Steel Company, Cleveland, Ohio
(Concrete Form Department)
The Western Wheeled Scraper Company, Aurora, Illinois
For France, Spain, Italy, Portugal, Belgium and their colonies; the West Indies and China.

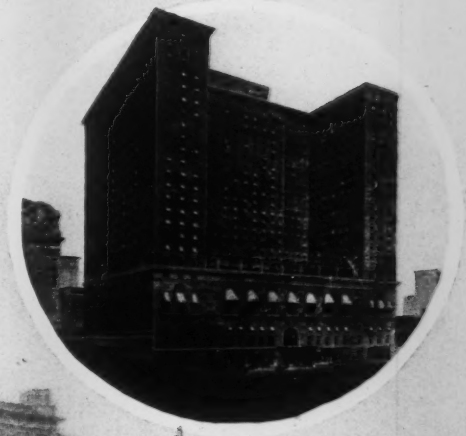
ALLIED CONSTRUCTION MACHINERY CORPORATION
Under the management and direction of the AMERICAN INTERNATIONAL CORPORATION
120 Broadway New York, U.S.A.

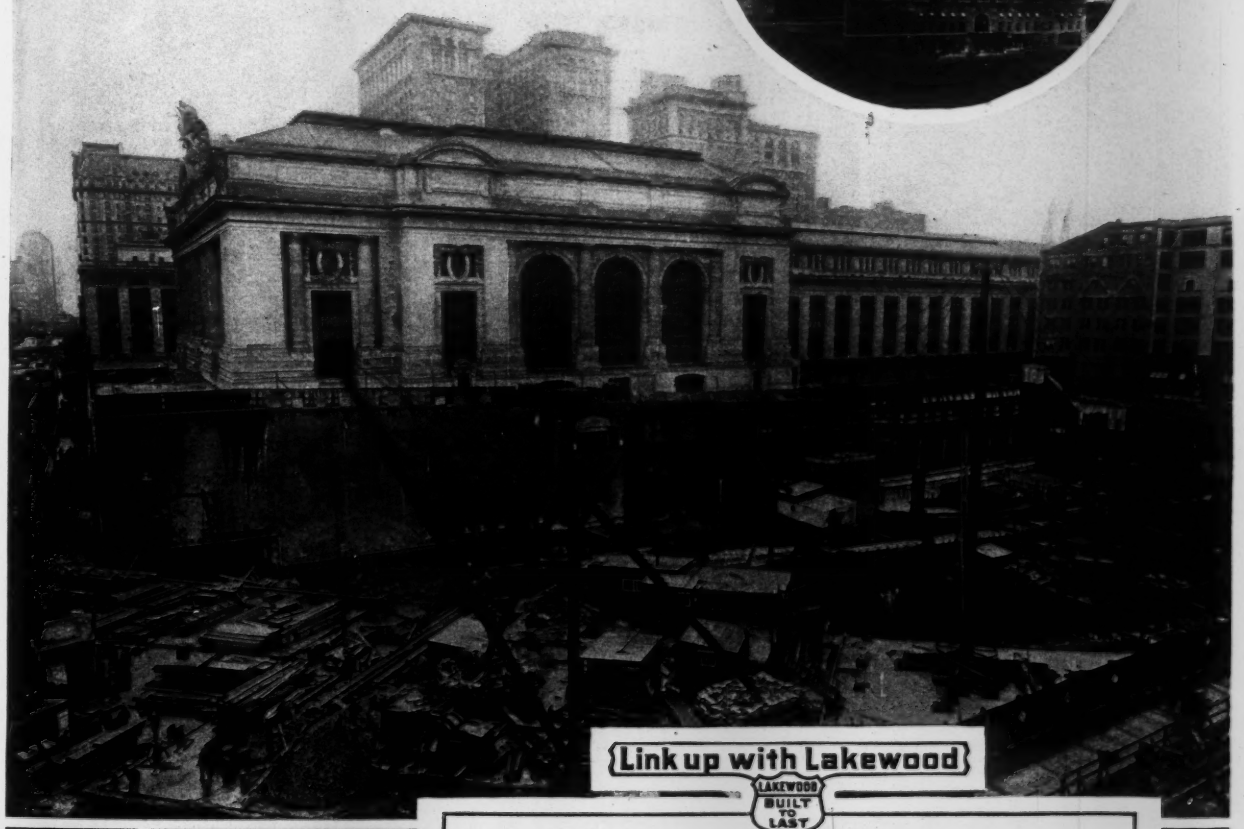
Linked up with Lakewood

Jas Lockhart
CHIEF ENGINEER

Link up with Lakewood
LAKEWOOD BUILT TO LAST
Lakewood Engineering Co. Cleveland
Sales outside of the United States and Canada handled through the ALLIED CONSTRUCTION MACHINERY CORPORATION, New York U.S.A.

COMMODORE HOTEL
New York City
GEORGE A. FULLER CO., NEW YORK CITY
Contractors.





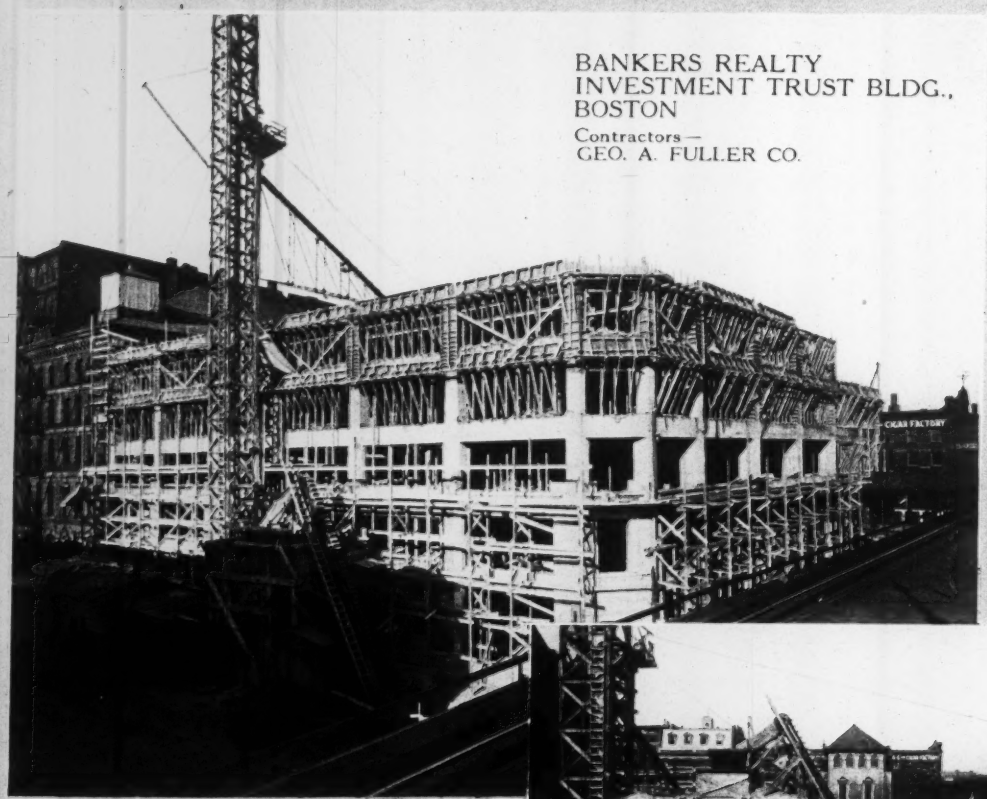
Link up with Lakewood

LAKEWOOD BUILT TO LAST

Lakewood Engineering Co. Cleveland

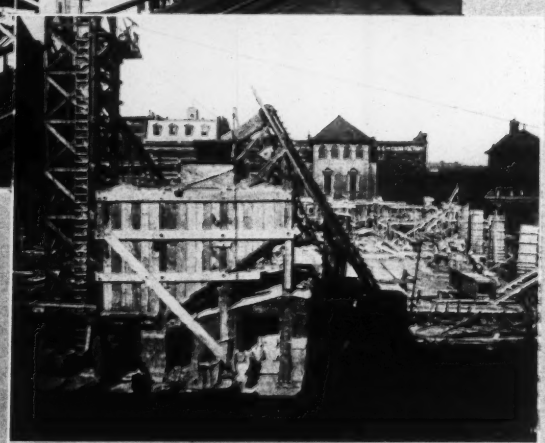
Sales outside of the United States and Canada handled through the ALLIED CONSTRUCTION MACHINERY CORPORATION, New York, U.S.A.

MEMBER OF NATIONAL MIXER MFRS.



BANKERS REALTY
INVESTMENT TRUST BLDG.,
BOSTON

Contractors—
GEO. A. FULLER CO.



MEMBER OF NATIONAL ASSOCIATION MIXER MNFRS.

Link up with Lakewood

LAKEWOOD BUILT TO LAST

Lakewood Engineering Co. Cleveland

Sales outside of the United States and Canada handled through the ALLIED CONSTRUCTION MACHINERY CORPORATION, New York, U.S.A.

Lakewood Type 640—
Clam Shell Bucket
unloading sand after
dredging from river bottom.
Contractors—
THE CADILLAC BUILDERS' SUPPLY CO.,
Detroit

MEMBER OF NATIONAL ASSOCIATION MIXER MNFRS

Link up with Lakewood

LAKEWOOD BUILT TO LAST

Lakewood Engineering Co. Cleveland

Sales outside of the United States and Canada handled through the
ALLIED CONSTRUCTION MACHINERY CORPORATION, New York, U.S.A.

Shallow Street Grade Excavation, But—

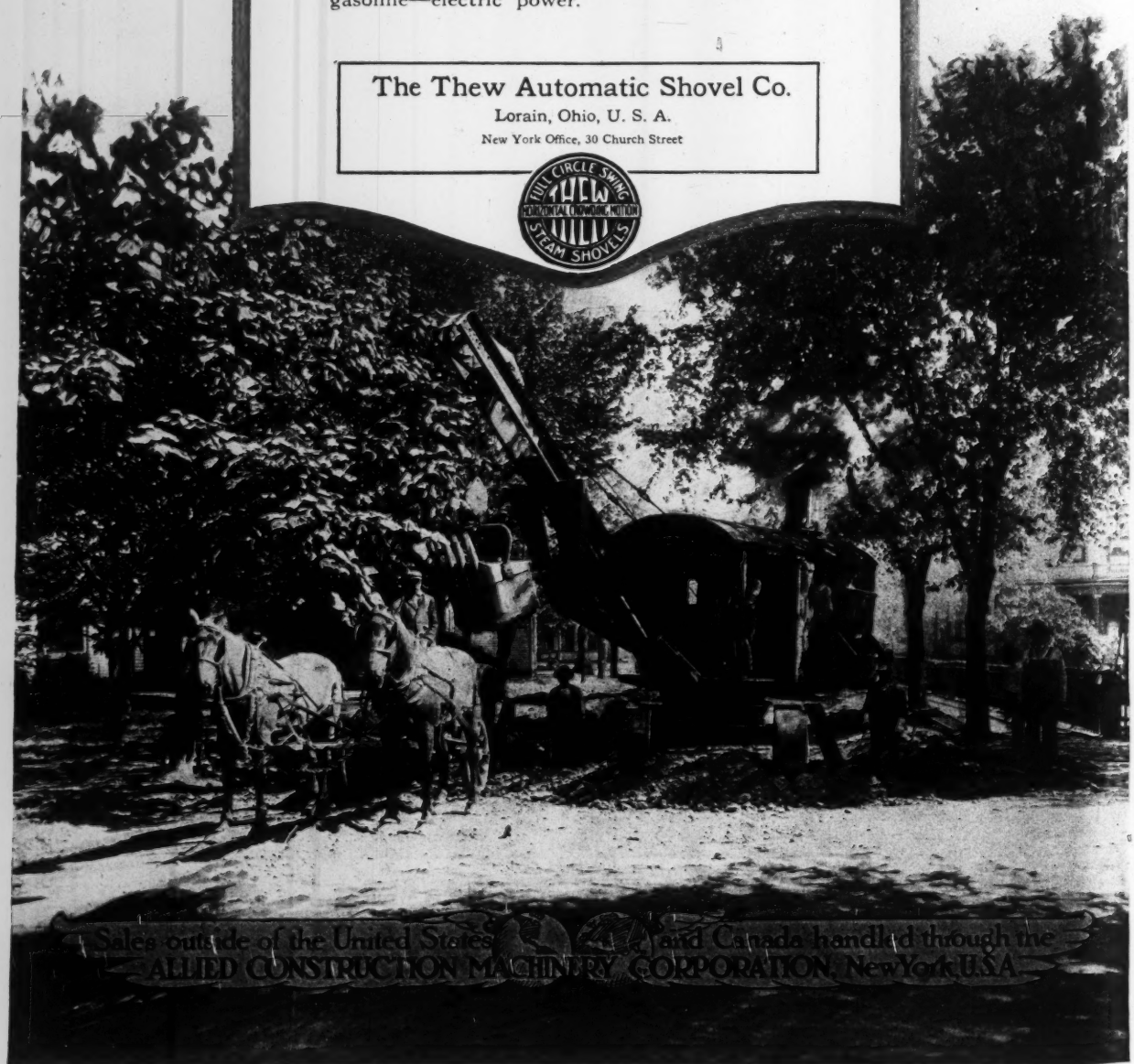
while grading St. Joe Boulevard, Fort Wayne, Ind., the Thew Shovel averaged daily 1500 square yards, cutting from 6 inches to 2 feet.

The Thew Automatic crowding-motion assures highest efficiency on shallow cuts, and a smooth floor. Yet, when necessary, the "Thew" will reach up and load high.

There is a "Thew" for every job. Steam—gasoline—electric power.

The Thew Automatic Shovel Co.
Lorain, Ohio, U. S. A.
New York Office, 30 Church Street

FULL CIRCLE SWING THEW HORIZONTAL CROWDING MOTION WILD STEAM SHOVELS



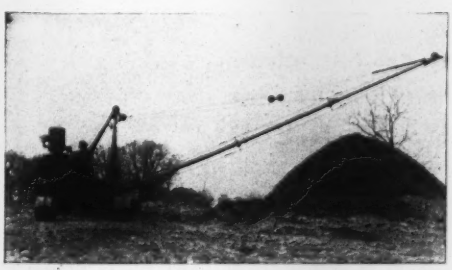
Sales outside of the United States and Canada handled through the ALLIED CONSTRUCTION MACHINERY CORPORATION, New York U.S.A.

And HERE is
PARSONS Model 48

with which you can dig a trench from 24 inches to 48 inches wide and from a few inches down to 18 feet deep. A powerful, husky looking brute of a machine, isn't it? Its big feature lies in the fact of its wide range of action.

Not just ONE size trench but a RANGE of sizes. In this it is like all the other Parsons models.

Note also the powerful "Parco" traction and general "all steel" construction. Write for full details—ask for Catalog "R."



The Parsons Backfiller

does the work of a number of teams. Four big loads a minute. One man operation. It can't tip. It won't slip. It's as steady as a stump. Write for Backfiller Booklet.

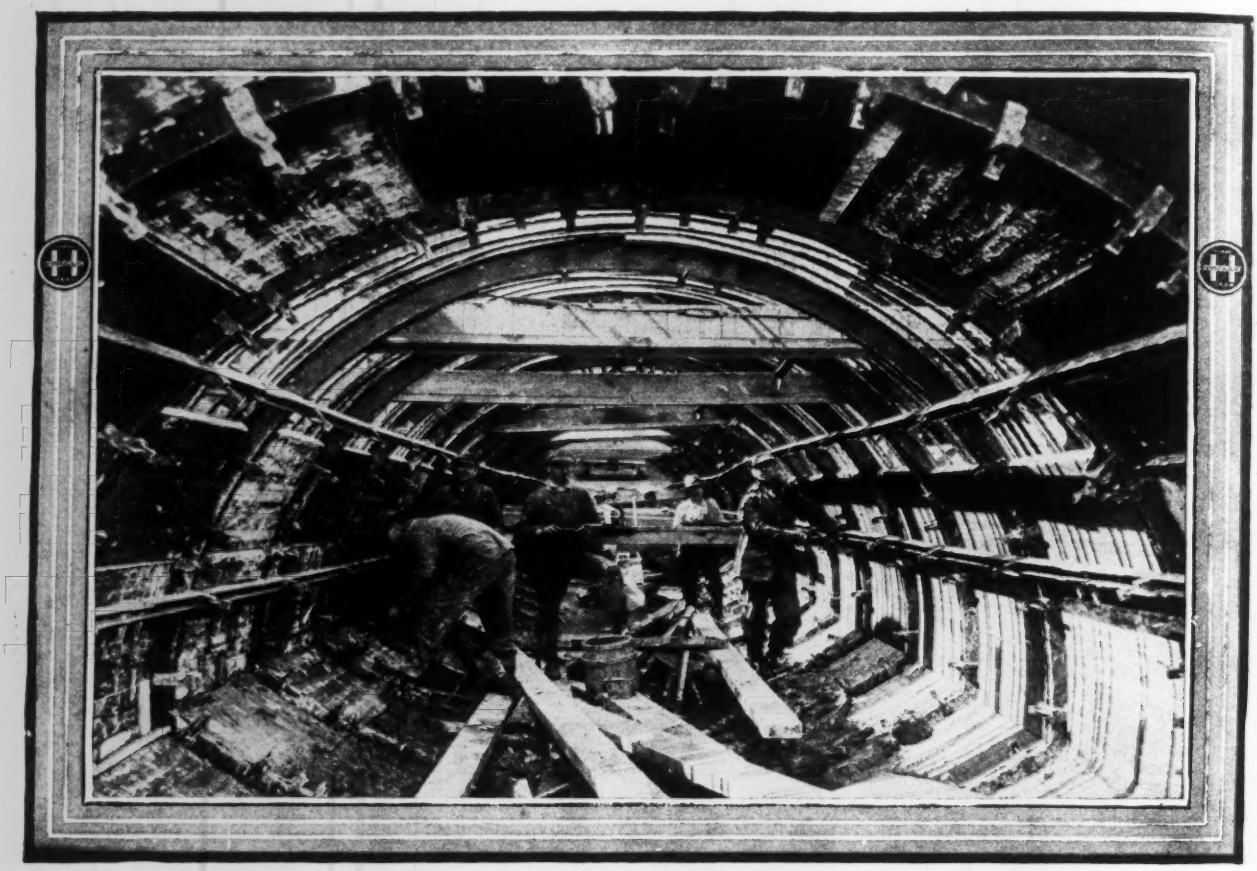
The PARSONS CO.

210 2nd St., NEWTON, IOWA

Eastern Sales Office: 18 West 34th Street, New York

Chicago Representative
W. B. Louer Company, Old Colony Bldg., Chicago, Ill.

Sales outside of the United States and Canada handled through the
ALLIED CONSTRUCTION MACHINERY CORPORATION, New York, U.S.A.



Have You PLENTY of MEN?

Have you carpenters and skilled laborers galore—are good men hounding you for jobs—is the price of lumber going down every day? If so—don't you stop to read this "Hint to Contractors."

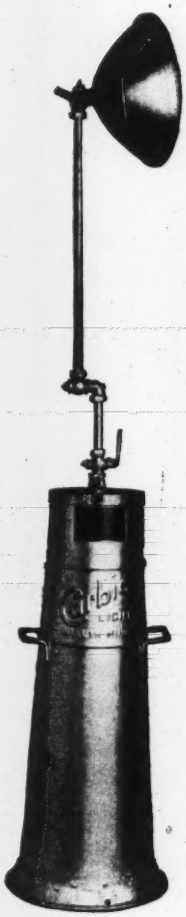
BUT—if you want to know how to get fine, clean concrete work with only a handy man and three huskies placing your HYDRAULIC PRESSED STEEL FORMS—*write us.*

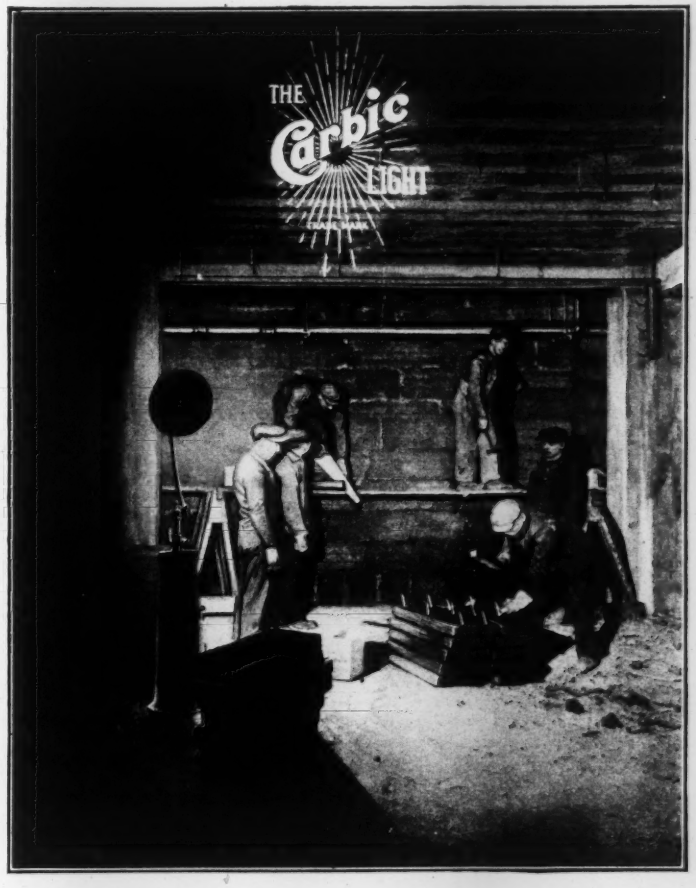
The Hydraulic Pressed Steel Company

Cleveland, O., U. S. A.

Chicago Office: Fisher Building, 342 Dearborn St.
New York Office: Equitable Building, 120 Broadway

Sales outside of the United States and Canada handled through the
ALLIED CONSTRUCTION MACHINERY CORPORATION, New York, U.S.A.





Making the MOST of Your Men

Men are scarce and getting scarcer. Labor costs are soaring.

Day and night your small gangs give you bigger output when the job is well lighted.

Carbic Lights are quickly moved where and when needed. On the interior of buildings and in close quarters underground on foundation work—they give clear, clean light—free from smoke and soot. Charged in ⅓ the time required for other lights—and kept running full blast by common labor. No skilled attention needed.

Best of all—**they cost less to operate.** That is caused by the simple, automatic control of gas generation and—the CARBIC CAKE—the latest advance in lighting material.

We prove these facts on your work—ree of cost or obligation. **Put it up to us—write.**

Carbic Manufacturing Co., Duluth, Minn.

Branch Offices:

New York: 52 Vanderbilt Ave. **Chicago: 53 Jackson Blvd.**
Boston: 27 School St. **Philadelphia: 18 South 7th St.**

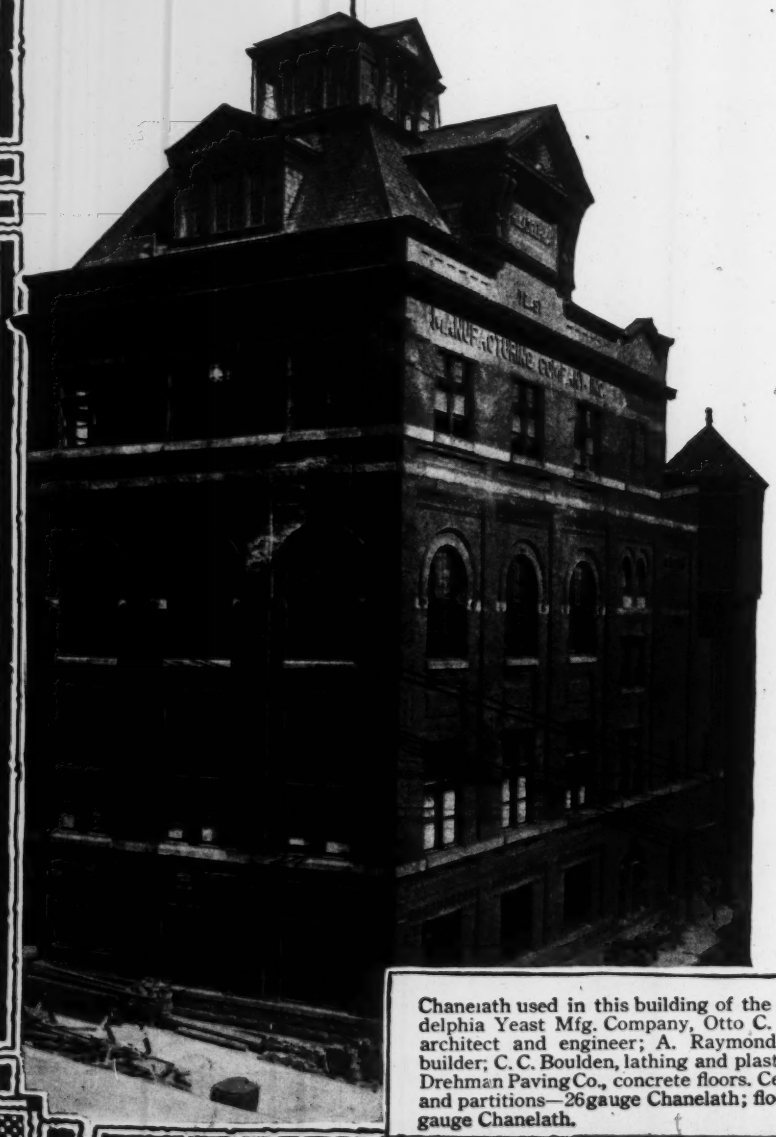
Warehouses and representatives in other principal cities
Wire branch office for address of nearest representative

You Specify it, too—

—For concrete roof and floor slabs, used as combined form and reinforcing. The reinforcing value of its T-Ribs and the anti-seepage feature of its mesh make Chanelath at once the most *efficient* and *economical*.

CHANELATH

Trade Mark Reg. U.S.P.O.



Exhaustive tests conducted by the Building Inspection Bureau of Philadelphia, more than confirm the claims we have made regarding seepage, deflection and strength.

You are invited to make careful investigation of Chanelath as a means of greater efficiency and positive economy in concrete construction.

North Western Expanded Metal Co.

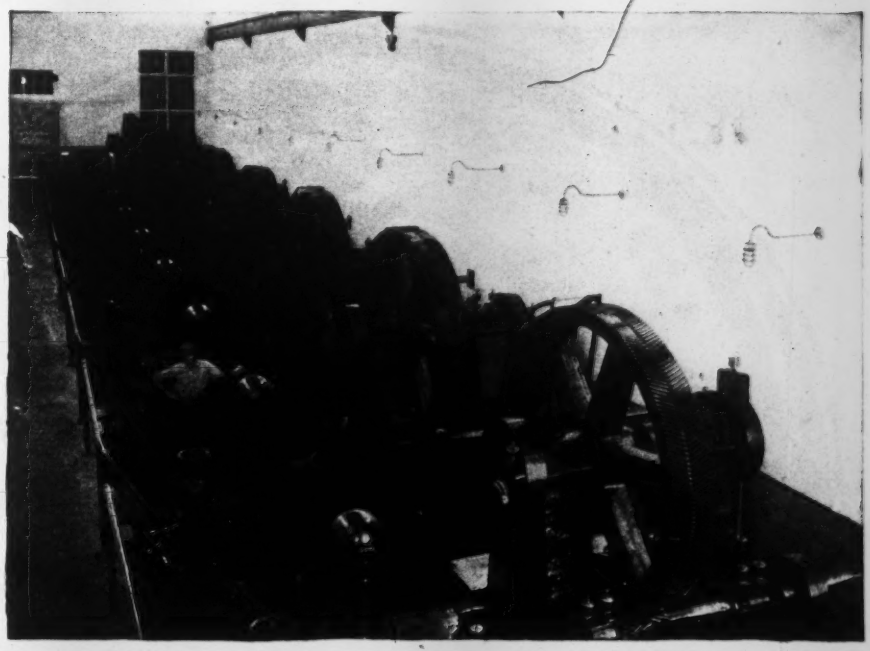
Members of the Associated Metal Lath Manufacturers

900 Old Colony Building
CHICAGO, ILL.

Chanelath used in this building of the Philadelphia Yeast Mfg. Company, Otto C. Wolf, architect and engineer; A. Raymond Roff, builder; C. C. Boulden, lathing and plastering; Drehman Paving Co., concrete floors. Ceilings and partitions—26 gauge Chanelath; floors 24 gauge Chanelath.

Look at Those Gears

See How Clean and Even the Teeth Are



For more than Two Years These Gears *have been running Right*

They have been running surely, evenly, noiselessly.

There has been little or no wear on the teeth.

Because over two years ago they began to LUBRICATE these huge pump gears with

TEXACO CRATER COMPOUND

The Great Gear Lubricant

When you put TEXACO CRATER COMPOUND on a set of gears you really LUBRICATE them.

TEXACO CRATER COMPOUND stays where it is put. It doesn't drip. It isn't squeezed out or flung off by centrifugal force. It doesn't crack, harden, peel or flake. It's a pure lubricant and always oily to the touch. It keeps a live film of lubricant between the wearing surfaces. Reduces friction. Prevents cutting. Banishes noise. It doesn't make any difference how large or heavy the gears are, CRATER makes good. CRATER is being used today on gears of all kinds, on pumps, on steam shovels, on dredges, on road rollers, and elsewhere.

The CRATER BOOK, 32 pages, illustrated, tells more about it. Write for a copy—or better yet, ask us to send you a 25-pound can on approval. We'll send this express prepaid and you won't be called upon to pay for it unless you are absolutely satisfied.

There is a Texaco Lubricant for Every Purpose.

THE TEXAS COMPANY

Dept. N. 3, 17 Battery Place, New York City

HOUSTON CHICAGO NEW YORK

Offices in Principal Cities

Building Bigger Business by Better Methods

Record outputs are being made by G-E Motor Drive at quarries

WHEN you cut down manufacturing costs—up go your profits. When you increase your production—when you increase the quality of your products — when you decrease spoilage—*up go your profits.*

When you make it easier for an employee to produce more, you make it easier for him to *earn* more; and you find it easier to get the *better kind* of help and much easier to *keep* them. *And up go your profits.*

When you cut down your power costs, when you cut down maintenance of plant—when you reduce overhead supervision—when you lessen breakage of machinery—when you reduce stoppage of machinery—these mean *more profits.*

These advantages and a greatly increased capacity for service to your customers come to plants equipped with G-E Motor Drive.

We will gladly send a member of our Engineering Organization who will study the requirements and conditions of your plant, and tell you how, where and why G-E Motor Drive will give you manufacturing advantages.

G-E Motor Drive

GENERAL ELECTRIC COMPANY

General Office, Schenectady, N.Y. **Sales Offices in all large cities**

7020

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 13, 1917.

Barge Canal Terminals

STATE OF NEW YORK, OFFICE OF SUPERINTENDENT OF PUBLIC WORKS

Albany, N. Y., June 15th, 1917.

Sealed proposals will be received by the undersigned at his office in the Capitol at Albany, N. Y., until twelve o'clock noon of Friday, July 13th, 1917, at which place and hour they will be publicly opened and read, for the construction of Barge canal terminals pursuant to the provisions of Chapter 746 of the Laws of 1911, and of the acts amendatory thereof, as follows:

TERMINAL CONTRACT NO. 103.

For furnishing, installing and testing portable package freight conveyors for terminals at Rochester, Utica and Schenectady.

Contract plans sheets 1 and 2.

Plans may be seen and detailed specifications, engineers' estimate of quantities, proposal blanks, form of contract and bonds required and other information for proposers may be had at the office of the Superintendent of Public Works at Albany, N. Y., at the office of the Assistant Superintendent of Public Works for the Middle Division at Syracuse, N. Y.; at the office of the Assistant Superintendent of Public Works for the Western Division at Rochester, N. Y., and at the canal office, Spaulding's Exchange, Buffalo, N. Y.

Copies of detailed plans of drawings may be obtained from the State Engineer and Surveyor at Albany, N. Y., upon payment to him of the cost of producing them.

Monthly estimates will be paid of ninety per centum (90 per cent.) of the work done at the contract price. Every proposal for said work must be accompanied by a money deposit in the form of a draft or certified check upon some good banking institution in the City of Albany or New York, issued by a national or State bank, in good credit within the State and payable at sight to the Superintendent of Public Works for five per centum (5 per cent.) of the amount of the proposal.

The person whose proposal shall be accepted will be required to execute a contract and furnish bonds within ten days from the date of notice of award delivered to him or them in person or mailed to the address given in the proposal.

Upon execution of the contract and approval of bonds, the certified check or draft will be returned to the proposer unless the same shall have been presented for collection prior to such time, in which case the amount of the deposit will be refunded by the Superintendent of Public Works.

The deposits of bidders other than the one to whom the award of contract shall be made will be returned immediately after the award has been made.

The bond required for the faithful performance of each contract shall be in such sum as shall be fixed by the Superintendent of Public Works, which sum shall not be less than twenty per centum (20 per cent.) of the estimated cost of the work according to the contract price, and an additional bond, known as the labor bond, in the sum of ten per centum (10 per cent.) of the amount of the estimated cost of the work according to the contract price, will be required as security that the contractor will pay in full at least once in each month all laborers employed by him upon the work specified to be done in the contract.

In the event that more than one surety company is offered as surety on said bonds co-insurance only will be accepted.

Each proposal must be addressed to the Superintendent of Public Works, Albany, N. Y., and must be endorsed on the envelope with the name of the construction for which the proposal is made.

Award, if made, will be made to the person or persons whose proposal shall be lowest in cost to the State for doing the work and which shall comply with all provisions required to render it formal. Before any award shall be made the lowest bidder will be required to satisfy the Superintendent of Public Works of his ability to provide suitable equipment and materials for the proper performance of the work.

The right is reserved to reject all proposals and readvertise and award the contract in the regular manner if, in the judgment of the undersigned, the interests of the State will be enhanced thereby. W. W. WOTHERSPOON,

Superintendent of Public Works.

Official Proposals

Price, $3.60 an inch—Copy can be received until Wednesday, 10 a. m. for issue mailed the next day

PROPOSALS

Bids received until July 9, 1917.

County Road Improvement

Winfield, W. Va., June 1, 1917.

Sealed proposals addressed to the County court of Putnam County, Winfield, W. Va., will be received until 2:00 P.M. July 9, 1917, by the County Court of Putnam County for furnishing the necessary labor and materials for constructing approximately 6 miles of road in Pocatalico District, Putnam County, according to plans and specifications on file in office of Road Engineer, Poca, W. Va.

Each bid must be accompanied by a cash deposit or a certified check payable to order of Sheriff of Putnam County for credit to the Pocatalico District Road Fund for an amount equal to five (5) per cent. of the sum total of the proposal or bid as a guarantee of good faith.

Detail plans, specifications and maps of the work may be seen and examined after July 2nd, 1917, at the office of Ernest Bruce, Road Engineer, Poca, W. Va., and the office of the County Clerk.

The County Court reserves the right to reject any or all bids for any or all sections of said work.

By order of the County Court of Putnam County, W. Va., June 1, 1917.

J. M. HENSON, Clerk.

PROPOSALS

Bids received until July 9, 1917.

Highway Work

OFFICE OF THE STATE COMMISSION OF HIGHWAYS

Albany, N. Y.

Sealed proposals will be received by the undersigned at their office, No. 55 Lancaster Street, Albany, N. Y., at one o'clock p. m. on Monday, the 9th day of July, 1917, for the repair of highways in the following counties:

Albany (two contracts—resurfacing and reconstruction).

Broome (two contracts—resurfacing)

Cattaraugus (one contract—resurfacing).

Chautauqua (one contract—reconstruction).

Columbia (one contract—reconstruction).

Erie (one contract—resurfacing).

Essex (one contract—resurfacing).

Greene (one contract—surface treatment).

Herkimer (one contract—surface treatment).

Jefferson (one contract—resurfacing).

Livingston (two contracts—resurfacing).

Monroe (one contract—resurfacing).

Oneida (two contracts—resurfacing and surface treatment).

Ontario (one contract—resurfacing).

Orange (one contract—reconstruction).

Oswego (two contracts—surface treatment).

Otsego (one contract—reconstruction).

Saratoga (one contract—resurfacing).

Seneca (one contract—resurfacing).

Steuben (one contract—resurfacing).

Washington (one contract—surface treatment).

Also broken stone contract No. 74, Erie County, on Road 1038 for No. 1 Stone 450 tons.

No. 2 Stone 375 tons.

No. 3 Stone 3200 tons.

Maps, plans, specifications and estimates may be seen and proposal forms obtained at the office of the Commission in Albany, N. Y., and also at the office of the Division Engineers in whose division the roads are to be improved. The addresses of the Division Engineer and the counties in which they are in charge will be furnished on request.

The especial attention of bidders is called to "General Information for Bidders" on the itemized proposal, specifications and contract agreement.

EDWIN DUFFEY, Commissioner.

I. J. MORRIS, Secretary.

Bids received until July 10, 1917.

Log Road Construction

Putnam, Va.

Bids will be received by the undersigned for the grading of 6 miles of standard gauge log road in Russell and Buchanan Counties, Virginia, according to Plans and Specifications, which can be seen at the office of the undersigned at Putnam, Va., or at the office of J. P. Williams, Jr., Chief Engineer, Tazewell, Va.

WHITE OAK LUMBER CO.

Bids close July 10th, 1917.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 2, 1917.

Bridge Superstructure for Sale

Bridgeport, Conn.

Sealed proposals will be received by the undersigned until 12 o'clock noon, Monday, July 2, 1917, for the sale of approximately 300 tons of wrought iron bridge superstructure—bridge built in 1888 and used for general highway and street railway traffic.

The bridge consists of one pony iron truss draw span, 174 ft. 5 in., center to center of end posts; with iron floor beams; depth of trusses at center, 12 ft. Weight approximately 150 tons.

Eight iron lattice deck girder spans about 41 ft. each.

Weight approximately, 150 tons.

Roadway of draw span about 28 ft.

Roadway of fixed spans about 31 ft.

Sidewalks about 9 ft.

Material to be available about August 15, 1917.

Check of 5% of total bid to accompany each bid.

The Board reserves the right to accept or reject any or all bids.

Board of Contract & Supply,
Room No. 23, City Hall, Bridgeport, Conn.

Bids received until July 9, 1917.

Concrete-Steel Viaduct

Barberton, Ohio.

Sealed proposals will be received at the office of T. J. Davies, Director of Public Service, Barberton, Ohio, until twelve o'clock noon, Central Time, on Monday, July 9, 1917, for the complete construction of a concrete-steel viaduct known as the Tuscarawas Avenue Viaduct, in accordance with the plans and specifications approved by the Court of Common Pleas of Summit County, Ohio, in cause No. 21,469, City of Barberton, Plaintiff, vs. The Baltimore & Ohio Railroad Company, et al., defendants, which said plans and specifications are now on file in the office of H. W. Alcorn, City Engineer, Barberton, Ohio. Proposals shall be made on the blank forms furnished by the City, and must be accompanied by a satisfactory surety company bond for the amount of the bid, or a certified check for ten thousand dollars ($10,000.00), made payable to the Treasurer of the City of Barberton. They shall be enclosed in an envelope bearing the name and address of the bidder, marked "Proposal for the construction of the Tuscarawas Avenue Viaduct Improvement," and addressed to the Director of Public Service. The bids will be opened and publicly read at the hour and date above given.

Copies of the plans and specifications may be seen at the office of the City Engineer, or at the office of Daniel B. Luten, Consulting Engineer, Indianapolis, Indiana; or copies may be obtained from either of the above on payment of ten dollars ($10.00) which will be returned to those submitting bids upon the day of the letting, provided the plans and specifications are returned in good condition.

Bidders are also invited to submit bids on their own plans. Such plans must be in strict conformity to the specifications on file, and must be completely detailed and must show the number of spans, the length of each, the nature, quality, and size of the materials to be used, the strength of the structure when completed, and whether there is any patent on the proposed plans, or on any, and if any, what part thereof.

Only bids from contractors who are experienced in this class of work and whose financial standing is sound will be considered. The right is reserved to reject any or all bids or to waive irregularities in bids if it is deemed to be to the interest of the City to do so.

T. J. DAVIES,
Director of Public Service.

Bids received until August 2, 1917.

Bridge Construction

Miami, Fla.

Sealed proposals, to be filed with W. B. Moore City Clerk, will be received by the City of Miami, Florida, up to 7:30 p.m., August second, 1917, for the construction of a bridge over the Miami River.

The bridge will have a total length of 265 feet between end piers and will provide a 20-ft. roadway and two sidewalks each 6 ft. wide. It will consist of six piers and 5 steel deck spans with lumber floor, one span being a double leaf bascule span. Payments will be made in cash and monthly estimates will be rendered. To all bids there shall be attached a check of the bidder, certified to by a responsible bank, made payable to W. B. Moore, City Clerk, for an amount of 10 per cent. of the bid, and the bidder, who has a contract awarded to him and who fails promptly and properly to execute said contract and bond shall forfeit said amount, which is to be taken and considered as liquidated damages, but not a penalty for failure of bidder to execute contract and bond. Upon the execution of the contract and bond by the successful bidder, said check will be returned to him. The checks of unsuccessful bidders will be returned to them after the contract and bond of the successful bidder are executed. The contract will be awarded to the lowest responsible and competent bidder, but the City of Miami reserves the right to reject any and all bids and to waive informalities. Plans and specifications are on file in the office of the City Clerk, Miami, Florida, and in the office of Harrington, Howard & Ash, Consulting Engineers, Kansas City, Missouri. Copies of the plans and specifications may be secured from the Consulting Engineers by depositing twenty-five dollars therefor. Such plans and specifications are to be returned upon request, at which time refund of twenty dollars will be made.

W. B. MOORE,
City Clerk.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., June 16, 1917.—SEALED PROPOSALS will be opened in this office at 3 p.m., July 9, 1917, for the construction of the United States Post Office at Glenwood, Iowa. Drawings and specifications may be obtained from the Custodian of the site at Glenwood, Iowa, or at this office, in the discretion of the Acting Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect.

PROPOSALS

Bids received until July 5, 1917.

READVERTISEMENT

Reinforced Concrete Bridges

Lawrence, Mass.

Sealed proposals for the construction of two (2) reinforced concrete bridges together with the grading and paving of approaches necessary to connect the structures with the City streets and the Central Bridge over the Merrimack River in the City of Lawrence, Massachusetts, will be received by the Mayor and City Council at the office of the City Clerk until 11 o'clock A. M., July 5, 1917, at which time and place the proposals will be opened and tabulated.

Copies of the plans and specifications, including form of proposal, may be obtained by Contractors at the office of B. H. Davis, Consulting Engineer, 17 Battery Place, New York City, upon making a deposit of Twenty-five ($25.00) Dollars, which sum will be refunded to all bidders upon the return of the plans and specifications in good order and to all other contractors returning same before bids are received.

A certified check for the sum of $5,000.00 payable to the City of Lawrence must accompany each proposal. Each proposal, accompanied by its certified check payable to the City of Lawrence, must be endorsed "Proposal for the Construction of Canal Bridges and Approaches" and must be delivered to Edward J. Wade, City Clerk, City Hall, Lawrence, Mass. A satisfactory surety company bond for 60% of the estimated contract price will be required of the contractor to whom the work is awarded.

The attention of bidders is directed to the fact that time of completion will be an important factor in the consideration of bids and the contractor to whom the work is awarded will be held strictly to the terms of the contract regarding the diligent prosecution of the work and the time of completion of the same. No proposal will be considered which fixes the date of completion of the bridges at a date later than November 1st, 1917.

Monthly estimates of the value of the work done and materials delivered will be made on or about the 1st of each month and payments amounting to 90% of such estimates will be payable on the 12th of each month. The right is reserved to reject any and all bids.

By order of the Mayor and Council.
EDWARD J. WADE, City Clerk.
B. H. DAVIS, Consulting Engineer.

Bids received until July 2, 1917.

Concrete Reservoir and Water Mains

Waverly, Iowa.

Bids will be received up to 5 o'clock P. M. July 2, 1917, for the construction of a 200,000 gallon reinforced concrete reservoir and 1200 feet 12 inch cast iron water mains with specials. Also for concrete wing walls and concrete apron for dam. A deposit of $5.00 is required for plans and specifications which are on file with the City Clerk.

F. A. LEE, City Clerk
O. P. CHASE, Engineer,
Clinton, Iowa.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 23, 1917.

Sewage Disposal Plant

Wingdale, N. Y.

Sealed proposals for Sewage Disposal Plant at Wingdale Prison, Wingdale, N. Y., will be received by the Commission on New Prisons, Room 615, Hall of Records, New York City, until two o'clock P.M. on Monday, July 23, 1917, when they will be publicly opened and read. Proposals shall be enclosed in an envelope furnished by the State Architect, sealed and addressed, and shall be accompanied by a certified check in the sum of five per cent. (5%) of the amount of proposal. The contractor to whom the award is made will be required to furnish surety company bond in the sum of fifty per cent. (50%) of the amount of contract within thirty (30) days after official notice of award of contract and in accordance with the terms of Specification No. 2782. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at the office of the Commission on New Prisons, Room 615, Hall of Records, New York City, at the New York Office of the Department of Architecture, Room 1224 Woolworth Building, and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank forms of proposals may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, Capitol, Albany, N. Y.

Dated: June 21, 1917.

Bids received until July 6, 1917

Pump House Building

SAVANNA AND YORK DRAINAGE DISTRICT, COUNTY OF CARROLL, STATE OF ILLINOIS

Thomson, Ill., June 15, 1917.

Sealed proposals will be received in the office of Franklin J. Stransky, Attorney of the Savanna and York Drainage District, Savanna, Illinois, until 10:00 o'clock A. M. July 6, 1917, for

(a) The furnishing of all material, machinery and labor for the construction of a Pump House Building and appurtenances.

(b) The furnishing and installation of the pumping machinery, electrical apparatus and auxiliaries.

Alternative bids will be received on an oil engine driven or steam driven plant.

Plans and specifications may be obtained from the Edmund T. Perkins Engineering Company, 1210 First National Bank Building, Chicago, Illinois, and 317-19 Illinois State Bank Building, Quincy, Illinois, and from N. D. French, Secretary, Thomson, Illinois, on deposit of Ten ($10.00) Dollars, which amount will be refunded if both the plans and specifications are returned in good condition within ten days after date of awarding of contract.

The district will exercise their own discretion as to letting the work as a whole, or by section, and reserve the right to reject any and all bids.

N. D. FRENCH, Secretary.

PROPOSALS

Bids received until July 9, 1917.

Marble Wainscoating

Media, Penn.

Sealed proposals will be received at the office of the County Controller, Media, Delaware County, Penn., on Monday, July 9, 1917, at 10 a.m., for marble wainscoating for the main stairway and second story front corridors of the Court House, Media, Penn.

Drawings and specifications will be on file at the Commissioners' office, Media, Penn., or the Architect's office, room 301 Crozer Building, Chester, Penn., or 1133 Broadway, New York City.

A certified check for at least 3% of the amount of the bid must accompany the proposal.

The Commissioners reserve the right to reject any or all bids.

ORION L. DAVIS,
County Controller.

Owing to holiday, Wednesday, July 4, the last form for our issue of July 5 will go to press at 10 a.m. on

TUESDAY

Copy for Want and For Sale announcements should be received on Monday. Proposals received until 10 a.m. Tuesday will be published if there is space available in the last form.

All copy should be sent in as early as possible **every week.** Only a limited amount of space is held open in the pages that go to press last.

PROPOSALS

Bids received until July 12, 1917.

Sewage Pumping Station and Equipment

Bridgeport, Conn.

Sealed proposals will be received at the office of the Paving and Sewer Commission, Room 22 City Hall, Bridgeport, Conn., until 8 P. M. o'clock July 12, 1917, for the construction of the Western Sewage Pumping station, etc., contract No. 1 and for the design, construction, delivery and erection of machinery and equipment for the Western Sewage Pumping Station contract No. 2 at which hour the bids will be publicly opened.

INFORMATION

Pump house circular about 67 ft. diameter and 76 ft. Sump floor to ridge.

Grit chamber about 28 ft. x 108 ft. x 28 ft.

Maximum estimated flow of sewage per 24 hours 30,000,000 gals.

Minimum estimated flow of sewage per 24 hours 10,000,000 gal.

The City has about 260 feet of 48 in. C. I. pipe which the contractor is expected to use in the outfall and which the City will furnish free. The contractor shall give pipe necessary coating.

Plans and specifications can be obtained from Alfred H. Terry, City Eng., City Hall Bridgeport, Conn.

A deposit of $50.00 will be required for one or two complete sets. This will be refunded if plans and specifications are returned marked with sender's name and in good condition by July 19th, 1917. Money will be retained to the amount of $10 for plans and specifications returned in damaged condition. No refund will be made for plans, etc., returned if received after July 19th as above.

THE PAVING AND SEWER COMMISSION,
BERNARD KEATING, Secretary.

Bids received until July 10, 1917.

Laboratory Fittings

SEALED BIDS will be received by the Board of Water Supply, at its offices, twenty-second floor, Municipal Building, Park Row, Centre and Chambers Streets, New York City, until 11 A.M., on Tuesday, July 10, 1917, for Contract 187, for fitting up a chemical and bacteriological laboratory, including the furnishing and installing of fixtures, furniture, piping and lighting, ventilating and drainage systems. The laboratory is located in the lower gate-chamber of Ashokan reservoir, in the Town of Olive, Ulster County, New York.

At the above place and time the bids will be publicly opened and read. Pamphlets containing information for bidders and contract drawings can be obtained at the above address, at the office of the Secretary, by depositing the sum of ten dollars ($10) in cash or its equivalent for each pamphlet. For further particulars apply to the office of the Principal Assistant Engineer at the above address.

CHARLES STRAUSS, President
CHARLES N. CHADWICK,
JOHN F. GALVIN,
Commissioners, Board of Water Supply.
GEORGE FEATHERSTONE, Secretary.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 10, 1917.

Brick Pavement

SEALED BIDS will be received by the Board of Water Supply, at its offices, twenty-second floor, Municipal Building, Park Row, Centre and Chambers Streets, New York City, until 11 A.M., on Tuesday, July 10, 1917, for Contract 184, for placing a vitrified brick pavement in tar mastic in the Kensico aerator. The work is located near the Kensico reservoir, in the Town of Mt. Pleasant, Westchester county, New York.

At the above place and time the bids will be publicly opened and read. Pamphlets containing information for bidders and contract drawings can be obtained at the above address, at the office of the Secretary, by depositing the sum of ten dollars ($10) in cash or its equivalent for each pamphlet. For further particulars apply to the office of the Principal Assistant Engineer at the above address.

CHARLES STRAUSS, President,
CHARLES N. CHADWICK,
JOHN F. GALVIN,
Commissioners, Board of Water Supply.
GEORGE FEATHERSTONE, Secretary.

Bids received until July 10, 1917.

Surfacing Highways

SEALED BIDS will be received by the Board of Water Supply, at its offices, twenty-second floor, Municipal Building, Park Row, Centre and Chambers Streets, New York City, until 11 A. M., on Tuesday, July 10, 1917, for Contract 179, for surfacing with vitrified brick block about 2,000 feet of highways at the Kensico dam, in the Town of North Castle, Westchester County, New York.

At the above place and time the bids will be publicly opened and read. Pamphlets containing information for bidders and contract drawing can be obtained at the above address, at the office of the Secretary, by depositing the sum of ten dollars ($10) in cash or its equivalent for each pamphlet. For further particulars apply to the office of the Principal Assistant Engineer at the above address.

CHARLES STRAUSS, President,
CHARLES N. CHADWICK,
JOHN F. GALVIN,
Commissioners, Board of Water Supply.
GEORGE FEATHERSTONE, Secretary.

Bids received until July 17, 1917.

Shandaken Tunnel

SEALED BIDS will be received by the Board of Water Supply, at its offices, twenty-second floor, Municipal Building, Park Row, Centre and Chambers Streets, New York City, until 11 A.M., on Tuesday, July 17, 1917, for a contract for the construction of the Shandaken tunnel. The tunnel is part of the Schoharie watershed development for the New York City water supply, is 18 miles long, and will carry water from the Schoharie reservoir to Esopus creek. The finished tunnel will be 11 feet 6 inches high by 10 feet 3 inches wide, lined with concrete masonry, and will have 8 shafts.

PROPOSALS

The tunnel has been divided into two portions, to be known as the north and south portions, so that bids may be submitted for either portion or for the entire tunnel.

At the above place and time the bids will be publicly opened and read. Pamphlets containing information for bidders and contract drawings can be obtained at the above address, at the office of the Secretary, by depositing the sum of twenty dollars ($20) in cash or its equivalent for each set. For further particulars apply to the office of the Principal Assistant Engineer at the above address.

CHARLES STRAUSS, President.
CHARLES N. CHADWICK,
JOHN F. GALVIN,
Commissioners, Board of Water Supply.
GEORGE FEATHERSTONE, Secretary.

Bids received until July 3, 1917.

Brick Road Improvement

Lafayette, Ind.

Notice is hereby given that the Board of Commissioners of Tippecanoe county, State of Indiana, at the County Auditor's office, in the City of Lafayette, Indiana, on the third day of July, 1917, up to the hour of ten o'clock a.m., will receive bids for the construction of 2.60 miles of brick road improvement in Fairfield township to be known as the M. P. Sheehan et al. road.

Also 2.02 miles of brick road improvement in Wabash township to be known as the Henry Klinker et al. road, as ordered by said Board to be constructed, and at the said time will let to the lowest responsible bidder, to contract for the construction according to specifications, plans, profile, estimate, etc., now on file in the office of the County Auditor of said county, at Lafayette, Indiana.

Bidders will be required to file with their bids bonds for double the amount of said bids, conditioned according to law at least one of which sureties on such bond must be a resident of said county, or a Surety company doing business in the county, and affidavits denying collusion as the law provides.

The right to reject any and all bids is reserved.

A reasonable time to be hereinafter fixed will be allowed for completing the work.

GEORGE W. BAXTER, Auditor.
E. C. MINTON, Engineer.

PROPOSALS FOR STONE-CONCRETE SUPERSTRUCTURE.—U. S. Engineer Office, Buffalo, N. Y.—Sealed proposals will be received here until 11 A.M., July 10, 1917, and then opened, for constructing stone-concrete superstructure on breakwater, Buffalo Harbor, N. Y. Information on application.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., June 20, 1917.—Sealed proposals will be opened in this office at 3 p.m., August 9, 1917, for the construction of the United States Post Office at Dubois, Pa. Drawings and specifications may be obtained after July 5, 1917, from the Custodian of the site at Dubois, Pa., or at this office, in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect.

PROPOSALS

Bids received until July 10, 1917.

Highway Construction

Rockville, Md.

Sealed proposals, addressed to the County Commissioners of Montgomery County, Maryland, and endorsed "Proposals for building a section of State Aid highway in Montgomery County," upon or along the Seneca Bridge Road between Darnestown and Seneca Bridge for a distance of 3.50 miles, will be received by the County Commissioners of Montgomery County, at their office, Rockville, Md., until 12 o'clock noon, on the Tenth day of July, 1917, and at that time and place will be publicly opened and read.

All bids must be made upon blank forms to be obtained of the State Roads Commission at its office, 601 Garrett Building, Baltimore, Md., must give the prices proposed both in writing and in figures, and must be signed by the bidder, with his address.

Each bid is to be accompanied by a certified check for Two Hundred Dollars ($200.00), payable to the Treasurer of Montgomery County, said check to be returned to the bidder unless he fails to execute the contract should it be awarded to him.

Plans can be seen and forms of specification and contract may be obtained on cash payment of One Hundred Dollars ($100.00), at the office of the State Roads Commission, Baltimore, Md.

The County Commissioners of Montgomery County reserve the right to reject any and all proposals.

By order of the Board of County Commissioners for Montgomery County, Maryland.

JOHN R. LEWIS, President,
BERRY E. CLARK, Clerk.

Bids received until July 12, 1917.

Brick Pavement

Olean, N. Y.

Sealed proposals will be received by the Commissioners of Public Works of the City of Olean, N. Y., at the office of the Superintendent of Streets in the City Building until 8 o'clock p. m. on the 12th day of July, 1917, for the construction of about 4800 square yards of brick pavement in Ninth Street from Washington Street to Irving Street.

Also, proposals will be received at the same place until 8 o'clock p. m. on the 16th day of July, 1917, for the construction of about 6280 square yards of brick pavement in East State Street from Union Street to the bridge over the P.R.R. tracks.

Plans and specifications may be seen and bid sheets procured at the office of the Superintedent of Streets, City Building, Olean, N. Y.

The right is reserved to reject any or all bids.

Dated June 23, 1917.

GEO. H. LUTHER,
Chairman Commissioners of Public Works.
E. E. ALLEN, Supt. of Streets.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 12, 1917.

Library Building

DEPARTMENT OF PUBLIC WORKS, THE BOARD OF TRUSTEES, THE FREE LIBRARY OF PHILADELPHIA.

Philadelphia, Pa.

Sealed proposals will be received in Room 216, City Hall, addressed to the Director, Department of Public Works and the Board of Trustees, The Free Library of Philadelphia, until 12 o'clock noon on Thursday, July 12th, 1917, and opened at that time in Room 202, City Hall, for:

"The erection of the building for the Free Library of Philadelphia, to be located on a plot of ground bounded by Vine, 19th, Wood and 20th Streets in the City of Philadelphia."

"The amount of money available for the erection of this building is approximately $2,720,000."

Bids for this work will be received under three separate proposals as follows:

Proposal for Contract No. 1: For the entire work as covered by the plans and specifications, except the plumbing work, heating and ventilating work and electrical work. Attention is called to Item 1-a in the proposal, providing for an allowance or credit to the City of Philadelphia, to be deducted from the sum named in Item No. 1 provided it way be legally permissible to have the stone cut at any place, so that the said cutting be not limited to the City of Philadelphia; in which case the cutting of the stone may be done either within or beyond the boundaries of said city as the contractor may elect.

Proposal for Contract No. 2: Plumbing and drainage.

Proposal for Contract No. 4: For the electrical equipment work.

A certificate from the Law Department that a proposal bond has been filed must accompany each bid.

Bidders must fully acquaint themselves with all the legal and departmental regulations applying to contract work in the City of Philadelphia; see reference to various such regulations in the specifications.

Plans will be forwarded for various classes of work upon deposit of proper amount with the Architect. Copies of plans, drawings, and specifications for the above work can be secured from Horace Trumbauer, Architect, 1406 Land Title Bldg., Philadelphia, to whom all inquiries for additional information should be addressed.

THE BOARD OF TRUSTEES, THE FREE LIBRARY OF PHILADELPHIA,
JOHN ASHHURST, Librarian.
GEORGE E. DATESMAN, Director,
Department of Public Works.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., June 14, 1917.—Sealed proposals will be opened in this office at 3 p. m., July 26, 1917, for the construction of the United States post office at Gallatin, Tenn. Drawing and specifications may be obtained from the custodian of the site at Gallatin, Tenn., or at this office, in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect.

PROPOSALS

Bids received until July 6, 1917.

Laundry Extension

Central Islip, N. Y.

Sealed proposals for Construction Work—Extension to Laundry and Equipment, at the Central Islip State Hospital, Central Islip, N. Y., will be received by the State Hospital Commission, Capitol, Albany, N. Y., until three o'clock P. M., on Friday, July 6, 1917, when they will be publicly opened and read. Proposals shall be inclosed in an envelope furnished by the State Architect, sealed and addressed, and shall be accompanied by a certified check in the sum of five per cent. (5%) of the amount of proposal. The contractor to whom the award is made will be required to furnish surety company bond in the sum of fifty per cent. (50%) of the amount of contract within thirty (30) days after official notice of award of contract and in accordance with the terms of Specification No. 2231, including Addenda dated May 3, 1917. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at the Central Islip State Hospital, Central Islip, N. Y., at the New York Office of the Department of Architecture, Room 1224 Woolworth Building, and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank forms of proposal may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, Capitol, Albany, N. Y.

E. S. ELLWOOD,
Secretary, State Hospital Commission.
Dated: June 11, 1917.

Bids received until July 10, 1917.

Building Removal and Erection

DEPARTMENT OF CITY TRANSIT,
754 BOURSE BUILDING
Philadelphia, June 18, 1917.

Sealed proposals, properly indorsed and addressed to the undersigned at the office above mentioned, will be received until 12 o'clock noon, on Tuesday, July 10, 1917, and opened immediately thereafter for the following work appurtenant to the Frankford Elevated Railway and authorized by Ordinances of Councils approved July 2, 1915, July 20, 1916, and March 6, 1917:

CONTRACT NO. 616—Removal of buildings at 3166 Kensington Avenue and at 3201-3-5 Kensington Avenue and erection of station buildings on these sites.

CONTRACT NO. 617—Removal of building at 3506 "K" Street and erection of station buildings on this site and at the southeast corner of Tioga Street and Kensington Avenue.

CONTRACT NO. 618—Erection of station buildings at the northwest and southeast corners of Torresdale and Kensington Avenues.

CONTRACT NO. 619—Removal of buildings at 4270-72 Frankford Avenue and at 4269-71 Frankford Avenue and erection of station buildings on these sites.

CONTRACT NO. 620—Removal of buildings at 4604 Frankford Avenue and at 4679-81 Frankford Avenue and erection of station buildings on these sites.

CONTRACT NO. 621—Alternate proposal, grouping bids for Contracts Nos. 616 to 620, inclusive.

CONTRACT NO. 622—Plumbing installations for station buildings.

CONTRACT NO. 623—Electrical installations for station buildings.

Plans and specifications can be seen at Room 748, Bourse Building, and copies of same, with blank forms for proposals, will be supplied to intending bidders upon deposit of $10 (cash or certified check) for each set of plans. Deposits will be refunded upon return of plans.

Bidders must be skilled and regularly engaged in the class of work bid for.

No bid will be considered unless accompanied by a certificate from the City Solicitor that a proposal bond in the sum of five hundred dollars ($500) has been filed, in accordance with the provisions of an ordinance approved May 25, 1860.

The Director reserves the right to reject any or all bids as he may deem best for the interest of the City of Philadelphia.

WM. S. TWINING, Director.

Bids received until July 6, 1917.

Laundry Building

West Haverstraw, N. Y.

Sealed proposals for Construction Work for Laundry Building at the New York State Hospital for the Care of Crippled and Deformed Children, West Haverstraw, N. Y., will be received by Mr. George Blagden, President, Board of Managers, New York State Hospital for the Care of Crippled and Deformed Children, West Haverstraw, N. Y., until three o'clock P.M., on Friday, July 6, 1917, when they will be publicly opened and read. Proposals shall be inclosed in an envelope furnished by the State Architect, sealed and addressed, and shall be accompanied by a certified check in the sum of five per cent. (5%) of the amount of proposal. The contractor to whom the award is made will be required to furnish surety company bond in the sum of fifty per cent. (50%) of the amount of contract within thirty (30) days after official notice of award of contract and in accordance with the terms of Specification No. 2651. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at the New York State Hospital for the Care of Crippled and Deformed Children, West Haverstraw, N. Y., at the New York Office of the Department of Architecture, Room 1224 Woolworth Building, and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank forms of proposal may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, Capitol, Albany, N. Y.

Dated: June 12, 1917.

U. S. ENGINEER OFFICE, 1st District, Cincinnati, O.—Sealed proposals for furnishing and delivering about 7,200 barrels of American Portland Cement for Dam No. 39, Ohio River, will be received here until 2 p.m., July 23, 1917, and then opened. Information on application.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 6, 1917.

Pavement and Storm Water Sewers

St. Johnsville, N. Y.

Sealed proposals for the construction of about 12,000 square yards of bituminous pavement on concrete foundation and about 2000 feet of 18 and 20 inch storm water sewers on North Division and Centre streets, in the village of St. Johnsville, Montgomery county, New York, will be received by the Board of Trustees of the Village of St. Johnsville, N. Y., at the office of the Clerk of said Village, until four o'clock p. m., of July 6th, 1917.

Plans and profiles may be seen at the office of the clerk of the village of St. Johnsville, and plans and specifications may be obtained from the Engineer on deposit of $10.00, which will be returned on the return of the plans in good condition.

All bids must be accompanied by cash or a certified check, payable to the Treasurer of the Village of St. Johnsville, N. Y., for the amount of Four Thousand Dollars ($4,000.00). The above checks will be returned to the bidders immediately after the award of the contract, except the check of the successful bidder, which will be retained until the contract is executed and a bond satisfactory to the Board of Trustees of said village furnished having as a surety a surety company authorized to do business in the state of New York.

Bids will be received for the whole work only.

The Board of Trustees hereby reserve and have the right to accept or reject any proposal, to contract with other than the lowest bidder, or to reject all proposals and advertise again, as in its judgment may be for the best interests of the Village.

Dated June 18, 1917.

JAMES R. FLEEMAN, President.
EDWARD EVERETT,
DOUGLAS S. ACKERMAN, Trustees.
WILLARD L. BELLINGER,
FRED J. WALTAMATH.
L. G. WALRATH, Clerk.

MORRELL VROOMAN, Engineer,
10 N. Main Street, Gloversville, N. Y.

Bids received until July 9, 1917.

Concrete Arch Bridge

Camden, N. J.

Sealed proposals are invited for the erection of a three span concrete arch bridge 219 feet long, and 50 feet wide, and the approaches over Newton Creek, on Champion Road, Camden Co., N. J. All in accordance with plans and specifications which are on file with Fred. W. George, Clerk, at the Court House, Camden, N. J. or he will mail the same to any address on receipt of $1.00.

Bids will be received, immediately opened and publicly read at the Court House, Camden, N. J., on Monday, July 9th, 1917, at 10.30 A. M.

Dated June 25, 1917.

FRED W. GERCKE, Chairman.
J. J. ALBERTSON, County Engineer.

PROPOSALS

Bids received until July 12, 1917.

Submerged Outfall Pipe, Channel and Connections at the Easterly Sewage Treatment Works

Cleveland, Ohio.

Sealed proposals will be received at the office of the Commissioner of Purchases and Supplies, Room No. 219 City Hall, until 12 o'clock noon (Eastern time), July 12, 1917, for the construction of a concrete outfall channel approximately 1200 feet in length supported on piling, a submerged steel or concrete outfall pipe line approximately 3000 feet long and connections.

Copies of plans and specifications and blank proposals can be obtained at the office of the Commisisoner of Engineering, Room No. 618 City Hall, after June 18, 1917, upon the deposit of Ten ($10.00) Dollars, the same to be refunded upon the return of the plans in good condition, or if a bid is submitted.

The proposal must contain the full name of the party or parties making the same and all persons interested therein and must be accompanied by a proposal bond signed by a surety company authorized to do business in the State of Ohio or by a certified check for Ten Thousand ($10,000) Dollars payable to the City of Cleveland on a solvent bank, as a surety that if the bid be accepted a contract will be entered into and the performance of it properly secured.

No proposal will be entertained unless made on the blanks furnished by the Commissioner of Engineering and delivered at the office of the Commissioner of Purchases and Supplies, Room No. 219 City Hall, previous to 12 o'clock M. (Eastern time) on the day specified.

The City reserves the right to reject any or all bids.

E. SHATTUCK,
Commissioner of Purchases and Supplies.

Bids received until July 18, 1917.

Ditch Construction

Glenwood, Ia.

Contractors are hereby advised that sealed bids will be received by the Auditor of Mills County, Ia., up to 1.30 P.M. Wednesday, July 18, 1917, for construction of Silver Creek Ditch No. One in said county. This ditch is 44,000 feet long, with a bottom width of sixteen feet and one to one bank slopes, average depth of cut twelve feet, berms ten feet wide must be left. The estimated amount of pay dirt is 547,000 cubic yards. Construction must be commenced on or before November 1, 1917, and must be completed on or before December 1, 1918.

Payment is in Drainage warrants redeemable in cash.

The nearest railroad station to the head of the ditch is five miles. For maps, profiles and specifications or bidding blanks address the undersigned, or Seth Dean Construction Engineer, Glenwood, Ia.

R. E. HUMPHREY,
Auditor of Mills County,
Glenwood, Ia.

PROPOSALS

Bids received until July 18, 1917.

Road Resurfacing

Belvidere, N. J.

Sealed bids will be received by the Board of Chosen Freeholders of the County of Warren, State of New Jersey, for the re-surfacing of 5.527 miles of road with macadam with bituminous dressing.

The roads are known as the Blairstown and the Blairstown-Columbia road Sec. No. 1 and are continuous.

Bids will be received at the Court House at Belvidere, N. J., on

WEDNESDAY, JULY 18, 1917,
at 10.30 a. m.

Bids must be accompanied by cash or certified check in the amount of one thousand dollars ($1000.00) made payable to H. O. Carhart, County Collector.

Specifications are on file and blank proposals may be obtained at the office of H. W. Vetter, County Engineer, Belvidere, N. J., and at the office of the State Department of Roads, Trenton, N. J.

Samples of approved materials are on file with the State Road Department and with the County Engineer, and will be shown and explained to prospective bidders on request.

The right is reserved to reject any or all bids.

By order of the Board of Chosen Freeholders of the County of Warren.

MORRIS S. FAUST,
Clerk.

Bids received until July 12, 1917.

Deep Well Pump and Motor

Cuba City, Wis.

Sealed proposals will be received at the office of the Village Clerk, Cuba City, Wisconsin, at eight (8) o'clock P. M. on the 12th day of July, 1917, for drilling a deep well and installing a new pump and motor, consisting of the following approximate quantities:

250 lin.ft.—12 in. well cased complete.
500 lin.ft.—10 in. hole.

Deep well pump and pump head in place.
Motor in place.

Payment to be made in cash. Certified check on Cuba City bank for $500. Plans and specifications and forms on file with the Village Clerk or Engineer.

WALTER BREWER,
Village Clerk.

J. G. Thorne & Company, Engineer,
317 Howes Block,
Clinton, Iowa.

PROPOSALS FOR the Purchase of one Pipe Line suction Dredge offered for sale by The Panama Canal.—Sealed Proposals will be received at the office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10:30 a.m., Aug. 20, 1917, at which time they will be opened in public for purchasing the above-mentioned Dredge. Blanks and information relating to this Circular (No. 1151) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; Audubon Building, New Orleans, La.; and Fort Mason, San Francisco, Calif.; also from the United States Engineer Offices in the principal cities throughout the United States.—Earl I. Brown, Lieut.-Col., Corps of Engineers, U. S. A., General Purchasing Officer.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 11, 1917.

Road Improvement

Mt. Holly, N. J.

Notice is hereby given that sealed bids will be received by the Board of Chosen Freeholders of Burlington County, N. J., for the improvement of the Jobstown Pike in the Townships of Northampton, Easthampton and Springfield in the County of Burlington with a sheet asphalt surface upon a present macadam foundation; estimated amount of surface pavement required is 31,896 square yards, and opened and read in public at the Court House, Mt. Holly, N. J., on July 11, 1917, at 11.30 A. M.

Drawings, specifications and forms of bid, contract and bond for the proposed work, prepared by James Logan, County Engineer, and approved by the State Highway Commission have been filed in the office of the said engineer at 11 Main street, Mt. Holly, N. J., and of said Commission at the State House, Trenton, N. J., and may be inspected by prospective bidders during business hours. Bidders will be furnished with a copy of the specifications and blue prints of the drawings by the engineer on proper notice and payment of cost of preparation. Bids must be made on the standard proposal forms in the manner designated therein and required in the specifications, must be enclosed in sealed envelopes, bearing the name and address of bidder on the outside, addressed to the Clerk of the Board of Chosen Freeholders and must be accompanied by a certified check or cash for not less than $1000.00 and be delivered at the place and on the hour above named. The standard proposal form is attached to the specifications, copies of which will be furnished on application to engineer.

By order of the Board.

HARRY HAWKINS, JR., Clerk.

Bids received until July 5, 1917.

Street Improvement

Tarrytown, N. Y.

Sealed proposals will be received by the Board of Trustees of the Village of Tarrytown, at the Corporation Rooms on Main Street, until 8 P. M. on Thursday, July 5th, 1917, for paving and otherwise improving Broadway in the Village of Tarrytown, a distance of Twelve thousand six hundred (12,600) feet involving about 53,629 square yards of pavement of which 9,896 square yards may be vitrified brick pavement and the remainder of approximately 43,733 square yards may be an asphaltic road surface on a concrete foundation or a concrete road surface as may be determined by the Village Board. All work to be done in strict accordance with the plans and specifications adopted by the Board of Trustees and on file with the Clerk of said Village.

The work to be done under the aforesaid specifications may be done under two contracts or may be combined into one contract as may be determined by said Board of Trustees.

Bids must be in writing, signed by the bidder and upon the blank form attached to and forming part of the specifications. Each bid must be accompanied by the sum of Five thousand dollars ($5000.00) in cash or certified check made payable to the Treasurer of the Village of Tarrytown, to be forfeited to the Village of Tarrytown as liquidated damages in case of failure on the part of the bidder to furnish satisfactory bonds and to enter into a contract if the work is awarded to him. Deposits of unsuccessful bidders will be returned as soon as the contract is awarded and the deposit of the successful bidder will be returned when the contract is signed and approved.

Contractors desiring to bid only on the asphaltic surface will be required to furnish a deposit of Two thousand five hundred dollars ($2,500).

No bids will be received after the time set. Plans may be inspected at the office of the Village Clerk or at the office of the Wulff Engineering Company, National Bank Building, Tarrytown, New York. Specifications and form of proposal may be obtained from the Village Clerk.

The Board of Trustees reserves the right to reject any or all proposals, or to accept whatever proposal may be, in its judgment, for the best interests of the Village.

Tarrytown, N. Y., June 19th, 1917.

J. WYCKOFF COLE, Village Clerk.

Bids received until July 11, 1917.

Road Improvement

Mt. Holly, N. J.

Notice is hereby given that sealed bids will be received by The Board of Chosen Freeholders of Burlington County, N. J., for the improvement of the Pemberton-Lewistown road in the Township of Pemberton in the County of Burlington with a concrete surface upon the present road bed, estimated amount of surface pavement required is 15,840 square yards, and opened and read in public at the Court House, Mt. Holly, N. J., on July 11, 1917, at 11.30 A. M.

"Drawings, specifications and forms of bid, contract and bond for the proposed work, prepared by James Logan, Burlington County, Engineer, and approved by the State Highway Commission have been filed in the office of the said engineer at No. 11 Main Street, Mt. Holly, N. J., of said Commission at the State House, Trenton, N. J., and may be inspected by prospective bidders during business hours. Bidders will be furnished with a copy of the specifications and blue prints of the drawings by the engineer on proper notice and payment of cost of preparation. Bids must be made on the standard proposal forms in the manner designated therein and required by the specifications, must be enclosed in sealed envelopes, bearing the name and address of bidder on the outside, addressed to the Clerk of the Board of Chosen Freeholders and must be accompanied by a certified check or cash for not less than $1000.00 and be delivered at the place and on the hour above named. The standard proposal form is attached to the specifications, copies of which will be furnished on application to engineer.

By order of the board.

HARRY HAWKINS, JR., Clerk.

U. S. ENGINEER OFFICE, Old Federal Building, Wilmington, Del.—Sealed proposals for dredging Toms River and Abascon Creek, N. J., will be received here until 11 A. M., July 5, 1917, and then opened. Further information on application.

Bids received until July 11, 1917.

Road Improvement

Mt. Holly, N. J.

Notice is hereby given that sealed bids will be received by the Board of Chosen Freeholders of Burlington County, N. J., for the improvement of Moorestown-Camden Pike in the Township of Chester, in the County of Burlington with a sheet asphalt surface upon a concrete foundation; estimated amount of surface pavement required is 31,091 square yards, of foundation 28,420 square yards, and opened and read in public at the Court House, Mt. Holly, N. J., on Wednesday, July 11th, 1917, at 12.15 P.M.

Drawings, specifications and forms of bid, contract and bond for the proposed work, prepared by James Logan, County Engineer, and approved by the State Commissioner at the State House, Trenton, N. J., and may be inspected by prospective bidders during business hours. Bidders will be furnished with a copy of the specifications and blue prints of the drawing by the engineer on proper notice and payment of cost of preparation. Bids must be made on the standard proposal forms in the manner designated therein and required by the specifications, must be enclosed in sealed envelopes, bearing the name and address of bidder on the outside, addressed to the Clerk of the Board of Chosen Freeholders and must be accompanied by a certified check or cash for not less than $1000.00 and be delivered at the place and on the hour above named. The standard proposal form is attached to the specifications, copies of which will be furnished on application to engineer.

By order of the Board.

HARRY HAWKINS, JR., Clerk.

PROPOSALS FOR LEVEE WORK.—Office of Third Mississippi River District, P. O. Box 404, Vicksburg, Miss.—Sealed proposals will be received here until 11 o'clock a.m., July 11, 1917, and then publicly opened, for constructing about 1,265,000 cubic yards of levee work. Information on application.

U. S. ENGINEER OFFICE, Room 305 Southern Building, Washington, D. C.—Sealed proposals for furnishing and delivering at foot of 35th Street, Washington, D. C., 15,000 barrels, more or less, of Portland cement will be received here until 12 M., July 10, 1917, and then opened. Information on application.

UNITED STATES ENGINEER OFFICE, Room 802, Army Building, 39 Whitehall Street, New York City.—Sealed proposals for dredging and removal of rock and boulders in Staten Island Sound, N. Y. and N. J., will be received here until 10 a.m., July 5, 1917, and then opened. Information on application.

PROPOSALS FOR ELEVATORS AND CONVEYORS, CONCRETE MIXERS, ETC.—Mississippi River Commission, U. S. Engineer Office, Customhouse, Memphis, Tenn.—Sealed proposals for furnishing one Troughing Belt Conveyor; one Centrifugal Discharge Belt Elevator, complete with drive engine; one Concrete Mixer, Bucket and Distributing Boom complete with drive engine and boiler; one Steam Capstan, and one Cement Sack Elevator complete, will be received at this office until 11 a.m., July 2, 1917, and then publicly opened. Information on application.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 16, 1917.

Dredging Work

Hanna, Ill.

Sealed proposals will be received by the Commissioners of the Lower Green River Special Drainage District in the County of Henry and State of Illinois, until the 16th day of July, 1917, and until 10 o'clock A. M. of said day at which time the bids will be publicly opened and considered at the residence of Benjamin Snodgrass, located on the Northwest Quarter of Section Nine in the Town of Hanna, Henry County, Illinois. The work for which bids are desired consists of dredging one main ditch, one lateral and making some fills, requiring the removal of approximately 489,723 cu. yds. of material. Plans and specifications for the work may be seen at the residence of either of the Commissioners or at the office of the engineers or attorney and from whom the same may be procured. All bids should be upon the form provided for that purpose and should be mailed or delivered to one of the Commissioners. The right is reserved to accept or reject any and all bids.

June 16th, 1917.

BENJAMIN SNODGRASS,
R.R. No. 2, Geneseo, Ill.
ARTHUR DAVIS,
R.R. No. 2, Geneseo, Ill.
CLARENCE PAYNE,
R.R. No. 2, Geneseo, Ill.
Commissioners in and for said Drainage District.

H. E. REEVES, Engineer,
U. S. Engineer's Office,
Leclaire, Iowa.
C. C. MARTIN, Engineer,
Geneseo, Illinois.
HENRY WATERMAN, Attorney,
Geneseo, Illinois.

Bids received until July 16, 1917.

Material and Labor for Sidewalk Construction

Media, Penn.

Sealed proposals will be received at the office of the County Controller at Media, Delaware County, Pa., on Monday, July 16th, 1917, at 10 A. M. for furnishing material and labor necessary to place concrete sidewalks on Seventh Street bridge, Chester, Pa.

Plans and specifications may be obtained by applying at the County Commissioners' office, Media, Pa.

A certified check not less than Ten per cent. (10%) of the amount must accompany the proposal.

The Commissioners reserve the right to reject any or all proposals.

ORION L. DAVIS,
County Controller.

Builders of Wooden Floating Docks

Tenders are solicited for floating docks of 350 feet length. Full specifications on reply to "Quick delivery." CL93—Eng. News-Record.

PROPOSALS

Bids received until July 12, 1917.

Refrigeration Equipment

Thiells, N. Y.

Sealed proposals for Refrigeration Equipment for Storehouse, Bakery, Refrigerating Plant and Cold Storage Building at Letchworth Village, Thiells, N. Y., will be received by Mr. Frank A. Vanderlip, President of the Board of Managers of Letchworth Village, No. 7 Wall Street, New York City, until twelve o'clock noon, on Thursday, July 12, 1917, when they will be publicly opened and read. Proposals shall be inclosed in an envelope furnished by the State Architect, sealed and addressed, and shall be accompanied by a certified check in the sum of five per cent. (5%) of the amount of proposal. The contractor to whom the award is made will be required to furnish surety company bond in the sum of fifty per cent. (50%) of the amount of contract within thirty (30) days after official notice of award of contract and in accordance with the terms of Specification No. 2514. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at Letchworth Village, Thiells, N. Y., at the office of the Board of Managers, No. 7 Wall Street, New York City, at the New York Office of the Department of Architecture, Room 1224 Woolworth Building, and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank forms of proposal may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, Capitol, Albany, N. Y.

Dated: June 11, 1917.

Bids received until July 17, 1917.

Concrete Dam

New Brunswick, N. J.

Sealed proposals will be received by the Board of Commissioners of the City of New Brunswick at the Commissioners' Council Chambers, District Court Room, Court House Building, Paterson Street, New Brunswick, N. J., on Tuesday, July 17th, 1917, at 10 A. M., for the erection and construction of a concrete arched dam crossing Weston's Mill Pond near the Pumping Station, in the City of New Brunswick, N. J.

All of said bids shall be in accordance with the plans and specifications on file in the office of Asher Atkinson, City Engineer, City Hall Building, 78 Bayard Street, New Brunswick, N. J., and from whom copies of said plans and specifications may be obtained, upon the payment of Ten Dollars ($10.00), which said sum of Ten dollars ($10.00) is to be refunded upon the return of said plans and specifications to the City Engineer, in good condition.

Each bid must be accompanied by a certified check for One thousand dollars ($1,000.00), made payable unconditionally to the Treasurer of the City of New Brunswick, which check must be presented with the bid as a guarantee that the bidder will within five days after receiving the award

PROPOSALS

enter into contract for the faithful performance of the work, and will also provide a Surety Company bond to be approved by the City Attorney, in the amount of one-half of the amount of the bid, for the faithful performance of the work.

The Commissioners reserve the right to reject any and all bids.

EDWARD F. FARRINGTON,
Director Department Public Affairs.
ASHER ATKINSON, City Engineer.
Attest:
EUGENE J. McLAUGHLIN, City Clerk.

Bids received until July 19, 1917.

Earth Excavation

Greenville, Miss.

Open bids for the construction of about 4,700,000 cubic yards of earth excavation for drainage channels (Contracts Numbers 1 to 10 inclusive) according to the plans and specifications of the engineers, will be received at Greenville, Mississippi, July 19, 1917, at 10 a.m. by the Board of Commissioners of Black Bayou Drainage District, Washington County, Mississippi. Any sealed bids received will be opened and considered after the open bidding is concluded.

Bids will be accepted for the work as a whole, or for any contract or combination of contracts into which the work has been divided.

The right is reserved to reject any or all bids, and to waive any informality in the bids received.

No bid will be considered unless accompanied by a satisfactory corporate proposal bond, following the form furnished by the District, or by a certified check for not less than five per cent. of the amount of the bid, but in no case need a certified check exceed $10,000.

The bidder, or bidders, to whom awards are made, will be required to enter into written contracts with the Commissioners of the District, with good and approved security for the full amount of the contract within 20 days after being notified of the acceptance of his proposal.

Payments for the work will be made in cash.

BOARD OF COMMISSIONERS,
By L. C. HAYS, President.
MORGAN ENGINEERING COMPANY,
Engineers.

Bids received until July 2, 1917.

Dredging

OFFICE OF BOARD OF COMMERCE AND NAVIGATION STATE HOUSE
Trenton, N. J., June 12, 1917.

Sealed proposals for dredging a section of the proposed Inland Waterway connecting Barnegat Bay with the Manasquan River will be received at this office at 12 o'clock noon, July 2, 1917, and then publicly opened. About $50,000.00 is available for this work. The right is reserved to reject any or all bids, or to waive informality in any bid if it may appear to the advantage of the State so to do. Further information on application. JOHN C. PAYNE,
Chief Engineer.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 13, 1917.

Fire Towers

Trenton, N. J.

Sealed proposals for the erection of "Certain Fire Towers, Fire Escapes, etc., New Jersey State Hospital, Trenton, New Jersey," will be received at the Hospital in Trenton, New Jersey, at 2 P.M. on Friday the 13th day of July, 1917, at which time they will be publicly opened and read.

Each proposal must be accompanied by certified check drawn to the bidder's order and properly endorsed for an amount equal to at least five per cent. of the amount of the bid.

The right to reject any and all bids is reserved.

After contract is awarded, the successful bidder will be required to furnish a satisfactory surety bond in one-half the amount of the contract price, to guarantee the fulfillment of condition of his contract.

Plans and specifications may be obtained upon application to the Department of Architecture.

FRANCIS H. BENT,
State Architect.

Bids received until July 10, 1917.

Trap-Rock, Sand, Cement, Etc.

Rahway, N. J.

Sealed bids will be received until 8 p.m., July 10, 1917, by the Common Council of the City of Rahway, for the following approximate amount of material, namely:—

650 tons 1½ inch gravel or crushed trap rock

325 tons sand

700 Barrels Portland cement

1400 Lin.ft. expansion joint filler 6 in. by ½ in.

700 Lin.ft. expansion joint filler 7 in. by ½ in.

Bids will be received separately upon each item all f.o.b. Rahway, N. J.

CHARLES H. LAMPERT, City Clerk.

Bids received until July 11, 1917.

Sewers, Etc.

La Crosse, Wis.

The undersigned, Board of Public Works of the City of La Crosse, will receive sealed proposals at its offices in the City Hall in said city until two o'clock in the afternoon of the 11th day of July, 1917, for providing, furnishing and performing all necessary work, labor and material to fully complete in all and every detail the following public work and improvement, to wit:

730.1 lineal feet of concrete or brick sewer, 40 inches by 60 inches.

1475.3 lineal feet of concrete or brick sewer, 36 inches by 54 inches.

798.8 lineal feet of vitrified pipe sewer, 24 inches diameter.

1455.4 lineal feet of vitrified pipe sewer, 20 inches diameter.

1407.3 lineal feet of vitrified pipe sewer, 18 inches diameter.

2138.1 lineal feet of vitrified pipe sewer, 15 inches diameter.

7954.1 lineal feet of vitrified pipe sewer, 12 inches diameter.

5491.2 lineal feet of vitrified pipe sewer, 10 inches diameter.

50 manholes.

94 catchbasins.

619 house connections.

All proposals shall be sealed and directed to this board and shall be accompanied with a bond to the City of La Crosse in the penal sum of thirty (30) per cent. of the bid or a certified check of fifteen (15) per cent. thereof. Work is to commence forthwith and to be fully completed on or before the 1st day of December, 1918.

The right is reserved to reject any and all bids.

Dated this 19th day of June, A. D. 1917.

BOARD OF PUBLIC WORKS,
By GEORGE P. BRADISH,
W. J. FRIES,
J. E. HIGBEE,
Commissioners.

Audited June 19th, 1917.

W. J. FRIES, Comptroller.

Bids received until July 3, 1917.

Bridge Improvement

Johnstown, Pa.

Sealed proposals for Repainting, Repairing, Remodeling and Reflooring the Portage Street Bridge will be received by the Superintendent of Streets and Public Improvements at his office in the City Hall, Johnstown, Pa., up until 12 o'clock noon, Tuesday, July 3, 1917, and publicly opened at the regular session of the City Council in their Chamber at 2 o'clock P. M. of the same date.

Proposals shall be made out on blank forms as attached to the specifications, and must be accompanied by such surety as is set forth therein.

Plans and specifications may be seen daily at the office of the City Engineer of the City of Johnstown, Pa. Copies of the same may be had by making application to the Farris Engineering Company, Empire Building, Pittsburgh, Pa., accompanied with a deposit of $25.00, which amount will be refunded if plans and specifications are returned in good condition on or before the date of the letting.

The right is reserved to reject any or all bids and to award the work as may be deemed to the best interests of the City of Johnstown.

THOMAS J. HARRIS,
Superintendent of Streets and Public Improvements.

June 21, 1917.

OFFICE OF THE COMMISSIONERS, District of Columbia, June 25, 1917.—Sealed proposals will be received at the office of the Secretary of the Board of Commissioners, Room 509, District Building, until 2 o'clock, P. M., July 9, 1917, for furnishing and delivering one 30 K. W. Motor Generator, at the New Central High School Building, at 13th and Clifton Streets, N. W. Blank forms of proposal, plans, specifications and all necessary information may be obtained from the Chief Clerk, Engineer Department, Room 427, District Building, Washington, D. C. A deposit of five dollars will be required from bidders to insure the return of the plans and specifications. Oliver P. Newman, Louis Brownlow, C. W. Kutz, Commissioners, D. C.

PROPOSALS

Bids received until July 10, 1917.

Setting and Resetting Curb

Rahway, N. J.

Sealed proposals will be received by the Common Council of the City of Rahway, N. J., up to eight o'clock P. M., Tuesday, July 10, 1917, at the City Hall, for setting and resetting of curb on both sides of Westfield Road in concrete from St. George's avenue to Madison avenue.

The following is the approximate amount of work to be done.

Furnish and set 710 lineal feet of 4 in. x 18 in. new blue stone curb in concrete.

Reset 2348 lineal feet of old curb in concrete.

Furnish 102 lineal feet of ¼ in. x 18 in. iron plates of various lengths and set in concrete.

Plans and specifications may be examined at the office of the City Engineer.

A certified check for the sum of $100 must accompany each bid, payable to "The Mayor and Common Council of the City of Rahway."

The Common Council reserves the right to reject any or all bids.

Rahway, N. J., July 27, 1917.

FRANKLIN MARSH, City Engineer.

Bids received until July 12, 1917.

Construction, Heating, Plumbing, Etc.

Ward's Island, N. Y.

Sealed Proposals for Construction, Heating, Plumbing and Drainage, and Electric Work for Building and Kitchen for Disturbed Patients (Additional Accommodations for Disturbed Patients) at the Manhattan State Hospital, Ward's Island, N. Y., will be received by the State Hospital Commission, Capitol, Albany, N. Y., until three o'clock P.M., on Thursday, July 12, 1917, when they will be publicly opened and read. Proposals shall be inclosed in an envelope furnished by the State Architect, sealed and addressed, and shall be accompanied by a certified check in the sum of five per cent. (5%) of the amount of proposal. The contractors to whom the awards are made will be required to furnish surety company bond in the sum of fifty per cent. (50%) of the amount of contract within thirty (30) days after official notice of award of contract and in accordance with the terms of Specifications Nos. 2712, 2725, 2726 and 2727. The right is reserved to reject any or all bids. Drawings and specifications may be consulted at the Manhattan State Hospital, Ward's Island, N. Y., at the New York Office of the Department of Architecture, Room 1224 Woolworth Building, and at the Department of Architecture, Capitol, Albany, N. Y. Drawings and specifications and blank forms of proposal may be obtained at the Department of Architecture, Capitol, Albany, N. Y., upon reasonable notice to and in the discretion of the State Architect, Lewis F. Pilcher, Capitol, Albany, N. Y.

E. S. ELLWOOD,
Secretary, State Hospital Commission.

Dated: June 13, 1917.

SEARCHLIGHT SECTION

Contracts To Be Let

PROPOSALS

Bids received until July 10, 1917.

Mixed Pressure Steam Turbine and Centrifugal Pump

Florence, S. C.

The City of Florence, S. C., will receive bids up to and including July 10th, on the following equipment: One mixed pressure turbine, direct connected to centrifugal pump. Pump to have a capacity of 700 G.P.M., against a discharge head of from 135 to 200 ft. and a suction head of from minus 5 ft. to plus 20 ft. (Reservoir partly above level of pump suction).

Available exhaust steam approximately 3000 pounds per hour at a pressure of from 2 to 5 lb. gage.

Certified check for 10% of amount bid must accompany each bid to guarantee fulfillment of contract.

City reserves the right to reject any or all bids or any part of any bid.

For approximate layout and further details address

CITY OF FLORENCE WATER DEPARTMENT,
M'KEAN MAFFITT,
Supt. Water and Sewers.
F. P. COVINGTON, Commissioner.

Bids received until July 3, 1917.

Road Construction

Trenton, N. J.

Notice is hereby given that sealed bids will be received by the Mercer county board of chosen freeholders for the construction of the River road, section 3, in the township of Hopewell, in the county of Mercer, with a bituminous concrete surface upon a macadam foundation (estimated amount of surface pavement required is 2,874 square yards; of foundation, 2,874 square yards), and opened and read in public at the court house, Trenton, N. J., on July 3, 1917, at 2:30 p.m.

Drawings, specifications and forms of bid, contract and bond for the proposed work, prepared by Harry F. Harris, engineer, and approved by the state commission of public roads, have been filed in the office of the said engineer, at the court house, Trenton, N. J., and of said commission, at the state house, Trenton, N. J., and may be inspected by prospective bidders during business hours. Bidders will be furnished with a copy of the specifications and blue prints of the drawings by the engineer on proper notice and payment of cost of preparation. Bids must be made on the standard proposal forms in the manner designated therein and required by the specifications; must be enclosed in sealed envelopes, bearing the name and address of bidder on the outside, addressed to the board of chosen freeholders of Mercer county, and must be accompanied by a certified check or cash for not less than $1,000, and be delivered at the place and on the hour above named. The standard proposal form is attached to the specifications, copies of which will be furnished on application to the engineer.

By order of board of chosen freeholders of the county of Mercer.

FRANK McCULLOUGH, Clerk.

Bids received until July 5, 1917.

Concrete Paving

Mount Penn, Pa.

Sealed proposals will be received by the Council of the Borough of Mount Penn, Pa., until Thursday evening, July 5th, 1917, at 7.00 o'clock P.M., for 6,000 square yards, more or less, of either plain or reinforced concrete paving, the work to be done on Perkiomen Avenue, west of 23rd Street; 23rd Street, north of Perkiomen Avenue; Carsonia Avenue and Friedensburg Avenue, according to specifications which may be procured from William H. Dechant & Son, Civil Engineers, Baer Building, Reading, Pa. Bids are desired both on the square yard basis and on the basis of cost plus per cent.

At the same time and place, sealed proposals will be received for 3,500 square yards, more or less, of Topeka or sheet asphalt paving to be placed on Perkiomen Avenue, east of 23rd Street, and on 23rd Street, north of Perkiomen Avenue, according to plans and specifications which may be procured from William H. Dechant & Son, Civil Engineers, Baer Building, Reading, Pa.

Council reserves the right to reject any or all bids.

GEO. C. HARTLINE, Borough Secretary,
Mount Penn, Pa.

OFFICE OF THE COMMISSIONERS, District of Columbia, June 25, 1917.—Sealed proposals will be received at the office of the Secretary of the Board of Commissioners, Room 509, District Building, until 2 o'clock P. M., July 6, 1917, for furnishing and installing an Ice Plant at the District of Columbia Reformatory, at Occoquan, Virginia. Blank forms of proposal, plans, specifications and all necessary information may be obtained from the Chief Clerk, Engineer Department, Room 427, District Building, Washington, D. C. A deposit of five dollars will be required from bidders to insure the return of the plans and specifications. Oliver P. Newman, Louis Brownlow, C. W. Kutz, Commissioners, D. C.

CONTRACTS WANTED

for railroad and industrial work. Operate with locomotive crane and automatic concrete plants. Address:

NEWTON ENGINEERING CO.
Milwaukee, Wisconsin

CONTRACT WANTED

For No. 0 Thew **Shovel**—almost new
10 Ton Pitts **Roller**
5 Teams with **Dump Wagons**
New Paving **Mixer**

Or, will rent or sell cheap.

KNAPP MACHINERY SUPPLY COMPANY
120 Liberty Street, New York, N. Y.

ENGINEERING NEWS-RECORD

is the

One Nationally Recognized Medium for Proposal Advertisiug

Practically evevery worth-while contractor and manufacturer who wants to figure on public contracts can be reached by advertising in

THE ONE DOMINANT PAPER

SEARCHLIGHT SECTION

Employment Department

Get your Wants into the Searchlight

ADVERTISING RATES

Under **"Positions Wanted,"** including Salesmen looking for new connections, Evening Work Wanted, etc., undisplayed advertisements cost **3 cents a word,** minimum charge 50 cents an insertion, **payable in advance;** less 10% if one payment is made in advance for four continuous insertions.

Under **"Positions Vacant,"** including Agents and Agencies Wanted, Representatives Wanted, Salesmen Wanted, Partners Wanted, Business Opportunities, Employment Agencies, and Miscellaneous For Sale, For Rent and Want ads.; also Auction Notices, Receivers' Sales, Machinery and Plants For Sale or Wanted, undisplayed advertisements set solid in one paragraph, cost **5 cents a word,** minimum charge $1.50 an insertion.

Machinery advertisments (undisplayed) set with a paragraph for each item, or tabulated, 30 cents a line, minimum 5 lines.

All advertisements for bids (**Proposals**) $3.60 an inch.

If replies are in care of any of our offices (New York, Philadelphia, Chicago) allow five words for the address.

DISPLAYED

1 inch	$3.00 an inch
4 inches	2.90 an inch
8 inches	2.80 an inch
15 inches	2.70 an inch

Rates for larger space furnished on request.

IMPORTANT—In replying to advertisements, do NOT enclose original testimonials, or anything that you may want returned. State your qualifications in as concise and neat a manner as you can and enclose COPIES of testimonials. In machinery ads, use a local name or address if possible so that readers can wire direct and get quick replies.

POSITIONS VACANT

SEVERAL first-class detailers and checkers wanted in engineer's office on shop details for structural steel work for mill buildings, manufacturing plants, etc. Apply, giving experience, age, salary wanted and when able to report. J. Harold Rapp, 1320 Fulton Bldg., Pittsburgh, Pa.

DRAFTSMEN (marine machinery) wanted for the Panama Canal; must have had experience in theoretical and practical boiler and engine design and construction and be capable of laying out water, oil, steam and exhaust piping; salary $175 a month, free steamship transportation from New York or New Orleans, salary beginning date of sailing; must be American citizen (final papers), under 45 years, physically sound; no civil-service examination required. Write "Chief of Office, The Panama Canal, Washington, D. C."

STRUCTURAL fitters and layers out wanted for structural shop in Havana, Cuba; must be fully experienced, rapid and accurate on mill building work; state experience, reference and salary at once; good position for right man; transportation to Havana. P887—Eng. News-Record.

TWO good structural detailers and checkers wanted for structural shop in Havana; must be fully experienced, rapid, accurate on mill building work; state experience, references, salary immediately; transportation to Havana. P888—Eng. News-Record.

COMBUSTION engineer wanted, familiar with large steam plants; experienced in efficiency work. Apply Charles B. Buerger, Atlantic Refining Co., 3144 Passyunk Ave., Philadelphia.

DRAFTSMAN, thoroughly experienced in detailing and checking structural and mechanical working drawings; steady employment; general work at $154 a month; in replying give full particulars. P62 (Tenn.)—Eng. News-Record.

MECHANICAL engineer wanted; experienced in general industrial work and power plant design; preferably one who is also familiar with heating and ventilating. Apply in writing stating experience and salary expected to P. O. Box 623, Harrisburg, Pa.

DRAFTSMAN wanted; one experienced on centrifugal pumps design preferred. Apply Lawrence Machine Co., Lawrence, Mass.

POSITIONS VACANT

ADVERTISEMENTS ARE KEYED

to our office nearest the advertiser. The advertiser's location is indicated by the State abbreviation following the box number.

IN REPLYING

be careful to put on envelope the key number in the ad. and also local address of office to which reply is sent.

10th Ave. at 36th St., New York.
1144 Monadnock Block, Chicago.
Real Estate Trust Bldg., Phila.
Rialto Bldg., San Francisco

IMPORTANT

Original letters of recommendation or other papers of value should not be enclosed to unknown correspondents—send copies. Advertisers' names will not be furnished under any circumstances. Copy received until 4 p.m. Tuesday for Thursday's issue.

A STREET foreman wanted by an old established firm, for the laying of sheet asphalt and bituminous mixtures. Must have at least five years experience. Not over forty-five years old. Season's work with yearly contract to the right party. Salary not a question; must deliver the goods. Also an asphalt plant foreman under similar conditions. State salary. Send application and references to P127 (Wisc.)—Eng. News-Record, Chicago.

SUPERINTENDENT wanted for stone crushing plant. Must be familiar with gyratory crushers and electric and gasoline motors. State age, married or single, experience and references. Salary, $125 per month and bonus. Excellent opportunity for hustler. Steady work and advancement. Plant located in Litchfield County, Conn. P128 (Conn.)—Eng. News-Record.

STRUCTURAL steel detailer with experience on trusses and girders, by firm in Northeastern Pennsylvania. State experience, firms and salary. P102 (Pa.)—Eng. News-Record, Phila.

DRAFTSMAN wanted; mechanical and structural. Apply Charles B. Buerger, Atlantic Refining Company, 3144 Passyunk Avenue, Philadelphia.

FOREMAN on alteration work, New York and vicinity. Steel erection, rigging, shoring, concrete, timber-work, etc. Sober, tactful man, able to handle a variety of work. Please state qualifications, salary, etc. P105 (N.Y.)—Eng. News-Record.

POSITIONS VACANT

SUPERINTENDENT or general foreman for manufacturing plant in Texas, consisting of structural steel, blacksmith, machine, boiler and tank departments. Must be capable of handling men and making his own estimates on new and repair work. State age, experience and salary wanted. P103 (Tex.)—Eng. News-Record, San Francisco.

ASSISTANT mechanical engineer, 30 to 35 years, wanted. Must have gas engine and steam engine experience. Salary, $1200 per annum. Fuel, natural gas. Eight hour shifts. Modern station. Should be good mechanic. Clarksburg Water Board, Clarksburg, W. Va.

ENGINEER draftsman wanted, must be competent and a man of experience; rapid and neat on road profiles, some knowledge of computing weights, etc., on steel highway bridges, prepare plans for small piers and abutments; salary to begin, one hundred twenty-five dollars; none but competent men of experience need apply; prospects for competent man good here; wire or write consulting engineer, 507 West Choctaw Ave., McAlester, Okla.

Owing to holiday next week, the

July 5th issue

will close for press ON MONDAY.

SEARCHLIGHT SECTION

Employment Department

POSITIONS VACANT

MECHANICAL engineer and draftsman wanted, familiar with designing hydraulic dredges and tug boats. Please state age, experience and salary desired. P111 (N.Y.)—Eng. News-Record.

DRAFTSMAN for miscellaneous and ornamental iron work, also structural man, capable of checking. Location, Detroit, Michigan. P108 (Mich.)—Eng. News-Record, Chicago.

CONTRACTOR'S superintendent wanted for large concrete road contract in Northwestern Ohio. Must be thoroughly practical, also competent executive and organizer, capable of efficiently handling entire operations. State salary, experience, and if immediately available. P135 (Mo.)—Eng. News-Record, Chicago.

CIVIL-SERVICE OPPORTUNITIES

Applications for the following will be received at State Civil Service Commission, Albany, N. Y., until July 18.
ASSISTANT chemist (1st Dist.) $1201-$1500.
JUNIOR assistant (Eng'rg Dept.) $901-$1200.
ARCHITECTURAL tracer; $480-$900.
SANITARY engineer (State architect's office) $1800-$2500.
GENERAL foreman (Bldg. construction) $2000.
PHYSIOLOGICAL chemist; salary $1500.

EMPLOYMENT AGENCIES

INSTRUCTORS, teachers, assistant professors and full professors for engineering and scientific subjects; we have quite a few openings for such parties. H. H. Harrison & Co., Teachers' Agency, Association Bldg., Chicago.

EMPLOYMENT AGENCIES

CORRESPONDENCE SERVICE

THE undersigned provides a confidential service designed to locate openings, through correspondence, for men earning not less than $2500 and up to $25,000; all lines. Not an employment agency, but a constructive, initiative service, covering individual negotiations. Established 1910. Complete privacy assured; present connections in no way jeopardized. Send name and address only for explanatory details. R. W. Bixby, T1 Niagara Square, Buffalo, N. Y.

POSITIONS WANTED

Mechanical and Electrical Engineers

ENGINEER, construction, mechanical, electrical; American; specialist factory construction and equipment; finishing large new factory in Canada; available about July first to fifteenth. PW83 (Can.)—Eng. News-Record.

GRADUATE mechanical engineer, 28; American; experience on railroad and subway construction; industrial building construction; gas pumping stations; gasoline recovery plants; at present employed; desire change; salary upon application. PW146 (Ohio)—Eng. News-Record, Phila.

MECHANICAL engineer (37), technical school and 12 years extremely varied experience; competent to take charge of important work. PW156—Eng. News-Record.

THE BEST WAY

to get a good position in Drafting or Engineering is to file an application direct with some of our clients who are depending on us to get competent and experienced applicants for their Vacant Positions. Send stamp for Blank and List of Vacant Positions.

The Cleveland Engineering Agency Co.
Rose Building, Cleveland, Ohio

EXPERIENCED
Labor Overseers
ARE NEEDED
IN THE
U. S. ARMY

If you have had experience as a boss or overseer over construction gangs, or any laboring body of men—the U. S. ARMY can use you to good advantage.

Apply to
Officers Recruiting or the Quartermaster Section nlisted Reserve Corps.

Chicago, Ill. Cincinnati, Ohio
Cleveland, Ohio Denver, Colo.
Detroit, Mich. Milwaukee, Wis.
Omaha, Nebr.

THE U. S. ARMY
NEEDS
PACKERS
With Pack Trains

Men of experience in the pack train service of the army or similar line of civil life. Only those possessing the requi ements prescribed for recruits for the Field Artillery should be interested, as the service is arduous.

"DO YOUR BIT"
where you are best qualified.

Apply to
Officers Recruiting for the Quartermaster Section Enlisted Reserve Corps.

Chicago, Ill. Cincinnati, Ohio
Cleveland, Ohio Denver, Colo.
Detroit, Mich. Milwaukee, Wis.
Omaha, Nebr.

ENGINEERING OPPORTUNITIES

Structural Detailers, 2,	$150
Mine Plant Draftsman	150
Surveyors, 2, for W. Va.	110
Railroad, Draftsman, M. of W	125
C. E. Plant Constr.	110
Municipal Instrumentman	90
Railroad Val. Engrs. and Draftsman	

THE ENGINEERING AGENCY, Inc.
Established 24 years
1662 Monadnock Block, Chicago, Ill.

Study Reinforced Concrete Engineering and Structural Steel Designing Under an Experienced Engineer

A superior course of mail study has been prepared by this engineer. The plan is to teach students by having them **actually do the work,** and all criticisms and corrections are made in person by the instructor.

Each individual is treated as though he were the only one taking the course of work.

You get actual Engineering Experience

M459—Eng. News-Record.

UNCLE SAM
NEEDS
PACK-MASTERS
Will You Come?

Men of experience in the pack-train service of the Army or similar line in civil life, capable of taking charge of a pack train, composed of 50 pack mules and 13 men—should be capable of setting up a pack saddle, packing same, etc., and able to impart instructions in this connection and in the care of mules.

If You Can Qualify

Apply to
Officers Recruiting for the Quartermaster Section Enlisted Reserve Corps.

Chicago, Ill. Cincinnati, Ohio.
Cleveland, Ohio Denver, Colo.
Detroit, Mich. Milwaukee, Wis.
Omaha, Nebr.

Advancement is nearly automatic to Structural Draftsmen

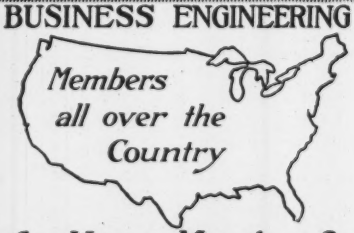
And they are always in demand

The knowledge you acquire in studying structural Draftsmanship *is the kind that counts in Structural Engineering*! It leads to higher salaries, the breaking away from routine, and A FUTURE FOR YOU.

A thorough course by mail is now available. Write for details.

M425, Engineering News-Record

BUSINESS ENGINEERING



Are You a Member ? Join Now !

American Association of Engineers
National Cooperative Business Organization
601-29 So. La Salle Street, Chicago

SEARCHLIGHT SECTION

Employment Department

POSITIONS WANTED

Civil Engineer

WATER-WORKS engineer, associated with consulting expert in design, construction and operation of waterworks wants responsible position with private corporation (water-supply or industrial) or industrial engineer; can organize and manage engineering department or office; university graduate; age 33; eight years in responsible charge of work; Eastern location preferred; salary $2400; available June 15. PW820—Eng. News-Record.

GRADUATE civil engineer and contractor's superintendent; 31; married; 10 years' experience on railway location and construction, highway construction, land, topographic and hydrographic surveys, harbor improvements, municipal and sanitary engineering and gas plants. Speaks Spanish fluently. Good executive. Best of references. Desires position where sober, competent and energetic man will have opportunity for advancement. Personal interviews in New York City and vicinity. PW969 (Mass.)—Eng. News-Record.

GRADUATE engineer, 38; high-grade executive; 16 years' experience topographic, hydrographic, geodetic and precise surveys; compilation, drafting and engraving of maps. PW913 (N. J.)—Eng. News-Record.

EXPERIENCED engineer on sewer and paving construction, capable of handling entire job, surveys, lines, grades, inspection tests, etc. Graduate, 1912, desires position as assistant or resident engineer. PW23 (N. C.)—Eng. News-Record, Phila.

CIVIL engineer, and draftsman, 25, technical graduate, experience in highway steel and railroad work, seeks opening in field or office; vicinity New York. PW30 (N Y)—Eng. News-Record.

CIVIL engineer, graduate, has 6 years' responsible experience as designer and estimator in steel and reinforced-concrete on railroad work and industrial buildings; good draftsman; excellent references; prefer location in or near New York City. PW82 (Ala.)—Eng. News-Record, Phila.

CIVIL ENGINEER, M. Am. Soc. C. E., 39, technical education, 13 years' experience drainage, irrigation, municipal and hydro-electric work is open for engagement July 1 as engineer or superintendent of construction; can produce results; go anywhere; salary, $3000. PW70 (Ill.)—Eng. News-Record, Chicago.

ENGINEER-MANAGER, Mem. Am. Soc. C. E., 17 years' experience, dams, locks, canals, water-works, sewers, highways, buildings; at present chief engineer for a large water company; salary, $5000. PW79 (N. Y.)—Eng. News-Record.

GRADUATE civil engineer, 29, married, 5 years' experience water-works and sewer systems, sewage disposal, pavements, highways, plain and reinforced concrete, drainage; design and construction, surveying, drafting, good executive, 3 years as resident and city engineer. PW61 (Ill.)—Eng. News-Record, Chicago.

CIVIL engineer; 8 years' experience in all phases of road building, understands materials and methods. Accurate estimator for contractors. PW94 (N.Y.)—Eng. News-Record.

GRADUATE civil engineer, 32; 6 years' experience covering railroad, highway, canal and subway survey and construction. For the last two years in charge of engineers and inspectors who made up monthly estimates, inspected material and supervised construction on large building construction work; desires position as engineer on heavy construction or on building construction. PW109 (N.Y.)—Eng. News-Record.

CIVIL engineering graduate; 2 years' experience in structural drafting, 4 years' experience in surveys and supervision of construction, desires position. Had charge of field party and construction. All around man in field and office. References. Go anywhere. PW118 (N.Y.)—Eng. News-Record.

CONTRACTORS: Position wanted as general assistant to contractor by graduate civil engineer. Two years' experience, structural work, estimating, time and cost records, etc. PW116 (N.Y.)—Eng. News-Record.

GRADUATE engineer, twenty-seven years old, desires position as contractor's engineer, or with public service company, five years general construction, mains, subways, etc. Good field man, capable of handling men. PW115 (N.Y.)—Eng. News-Record.

CIVIL engineer, graduate, 11 years' experience. Construction, design, and representative for consulting engineers, bridges, smelters, industrial plants. PW 110 (Ill.)—Eng. News-Record, Chicago.

CIVIL engineer, 33, railroad experience, six years, preliminary location, construction and valuation. Municipal experience, four years, water-works, paving, sewers, and sewage disposal. Designer and executive; available two weeks' notice. American, speaks Spanish. PW106 (N.C.)—Eng. News-Record, Phila.

CIVIL engineer, 31, married, desires position of permanence with engineer or contractor. Eastern location. Responsible construction experience and practical knowledge of reinforced concrete design. Available now. PW107 (Conn.) — Eng. News-Record.

CIVIL and mechanical engineer, M. Am. Soc. C. E., executive; 30 years' experience railroads, tunnels, water-works, filtration plants, harbors, dredging, submarine rock excavation, masonry bridges, dams and heavy construction; wide experience safe estimates cost, difficult construction, design, special plant, including dredges, submarine drill plant and other floating equipment; New York references and interview. PW132—Eng. News-Record.

READ THE
Searchlight Section
EVERY WEEK

The For Sale pages are a weekly "Bargain Sale"—the biggest to be found anywhere, because the News-Record publishes more ads of this kind than can be found in any other journal.

Every issue contains offers of equipment by which contractors can save a lot of money. It is a habit counting for economy to look over the For Sale pages every week whether or not a contractor intends to buy anything at the moment. This keeps him in touch with what is available—and where—when he must buy.

Keep an eye on the Want columns at the same time. They afford an easy means of marketing equipment for which one concern may have no further use, but which may be just what another concern wants.

Altogether the Want and For Sale pages of the Engineering News-Record form an "Opportunity Department" that hardly anybody in the engineering-contracting field can pass by without losing money.

ENGINEERING NEWS-RECORD
10th Ave. at 36th St., New York

DO YOU NEED A CIVIL ENGINEER?

The advertiser is a graduate of one of this country's leading technical universities. He is an associate member of the Am. Soc. C. E. He has had fourteen years' experience in designing, estimating and supervising all kinds of municipal and railroad construction, and constructing work.

He is now connected with a large contracting firm as assistant engineer.

He will consider a position in contracting or civil engineering line in which his knowledge, initiative and executive ability can be utilized to advantage. Place as Chief Engineer for firm of contractors preferred. He does not wish to make a change from his present position unless the place has substantial responsibilities and remuneration in accordance with them.

Present location, N. Y., but will arrange for an interview anywhere within a thousand miles, provided you are really interested in securing a man having the above qualifications.

Address—Advertiser, Room 1408, 11 Pine St., New York

SEARCHLIGHT SECTION

Employment Department

POSITIONS WANTED

CIVIL engineer, graduate, several years on construction, surveys and drafting; varied experience. PW123 (Pa.)—Eng. News-Record, Phila.

CIVIL engineer, member Am. Soc. C. E., with extended experience in construction and management work is open for engagement of executive responsibility. PW121 (N.J.)—Eng. News-Record.

COOPER Union day school graduate, C. E., 20, wishes connection with construction company or consulting engineer. Vicinity New York preferred. PW117 (N.Y.)—Eng. News-Record.

CUBAN civil engineer, 24, just graduated, desires connection with reputable engineering firm to obtain experience. English and Spanish. Abrem, 722 Greene Avenue, Brooklyn, N. Y.

CIVIL engineer, twenty years' experience; last three years on design, construction and operation, gun-cotton and smokeless plants. Now employed; work nearing completion. Complete staff. PW52 (Can.)—Eng. News-Record.

CIVIL engineer, city surveyor, superintendent, 11 years' experience field, office, building construction, estates, industrial subdivisions, roads, street improvements sewers, etc. PW137 (N. Y.) —Eng. News-Record.

TECHNICAL, civil engineering young man (22), 4 years college, desires position in which he can gain more experience; available June 2, 1917. PW136 (N. Y.)—Eng. News-Record.

GRADUATE civil engineer, 20 years' experience designing, estimating and erecting concrete, steel and wooden structures, desires position near Chicago; best of references and details furnished. PW141 —Eng. News-Record, Chicago.

CIVIL engineer, graduate, 26, four years' experience concrete bridge, highway, subway, steel-mill construction; desire position where I can learn practical designing; I have been doing outside work; am now looking for the inside job; good references; vicinity New York. PW149 (N. Y.)—Eng. News-Record.

CIVIL engineer, over 20 years' experience railroad location, construction and maintenance, last three years valuation, now employed, desires responsible position. PW160 (N. J.)—Eng. News-Record.

Bridge and Structural

STRUCTURAL engineer, 33; Assoc. M. Am. Soc. C. E.; 13 years' experience in design of steel and reinforced concrete railroad and highway bridges and foundations; location New York City preferred. PW914 (N J)—Eng. News-Record.

STRUCTURAL engineer; technical training; experienced in shop practice, designing, detailing, erecting and selling, desires position in engineering department or as sales engineer. Best of references. PW125 (Texas) — Eng. News-Record, Chicago.

STRUCTURAL engineer, graduate, 12 years' designing steel and concrete structures, bridges, railway structures; mechanical filtration plants, hydro-electric power development. PW87 (Md.)—Eng. News-Record.

POSITIONS WANTED

ENGINEER with broad experience in building construction and equipment of manufacturing plants, is seeking connection with consulting engineer or firm to whom this experience would be valuable. PW 985 (N Y)—Eng. News-Record.

EXPERIENCED structural steel and reinforced concrete engineer; mill buildings, bridges, conveyors; open for engagement. PW153 (N. Y.)—Eng. News-Record.

STRUCTURAL engineer; 16 years' experience, mostly industrial plants and buildings; detailing, estimating, designing and supervising. PW158 (N. Y.)—Eng. News-Record.

INDUSTRIAL ARCHITECT—A practical man of wide experience, good executive, desires permanent connection with corporation; salary, $2500. PW69 (N, Y.) —Eng. News-Record.

Surveyors

TRANSITMAN and engineer; one who is capable and able to handle the building of a narrow-gage railroad, both field and office work; to start at once; state age, experience and salary exepected; good opportunity for the future. PW144 (Tenn.)—Eng. News-Record, Chicago.

Draftsmen

DESIRE position as chief draftsman or squad leader; fully abreast of modern methods; proven executive ability; 15 years' varied experience. PW63 (Ill.)—Eng. News-Record, Chicago.

STRUCTURAL draftsman and designer, technical graduate. 6 years' experience detailing, checking and designing all kinds of steel structures, some experience in reinforced concrete, desires permanent position, preferably with consulting engineer. PW130 (Ill.)—Eng. News-Record, Chicago.

STRUCTURAL steel draftsman (checker) of over seven years' experience, desires extra work at home; detailing, checking or both on all kinds of steel structures; hoppers, hip and valley work and coal-handling plants especially solicited; expediency a feature; write for complete information. PW77 (Ohio)—Eng. News-Record, Phila.

POSITIONS WANTED

DRAFTSMAN; age 32, nine years experience topographical, railroad and general engineering, wants permanent position. PW124 (Ohio)—Eng. News-Record, Chicago.

DRAFTSMAN desires position, experience topographical maps and profiles. Location, New York City. Address PW119 (N.Y.)—Eng. News-Record.

LADY, experienced, desires position as draftsman in engineer's office; location anywhere. PW152 (Ia.)—Eng. News-Record, Chicago.

ESTIMATOR, 15 years in charge of estimating for large general contractor on masonry, carpentry and reinforced concrete; letting subcontracts, listing trim and lumber and general office work; annual business two to three million; wishes to change. Room 420, 1269 Broadway, New York City.

DRAFTSMAN desires position; graduate surveying, mapping and mechanical drawing. PW155 (N. Y.)—Eng. News-Record.

YOUNG man, 25 years, attending college, desires executive, secretarial or accounting position with architect, engineer or contractor after school hours; have 9 years of field and office experience on large building construction; locality immaterial if near recognized engineering college. PW159 (Ill.)—Eng. News-Record, Chicago.

STEEL and concrete designer and draftsman; also general drafting experience; position with contractor preferred. PW 165 (N.Y.)—Eng. News-Record.

Laborers and Mechanics

furnished for all kinds of construction and industrial works; **free of expense** to the employer, provided transportation is advanced. Also Commissaries conducted on a modern plan, and no alcoholic beverages sold.

EMPIRE LABOR AGENCY

Tel. 1745 *Franklin* 93 Mulberry St., N. Y.

DO YOU NEED LABORERS? ***Just Call Canal 8970***

Any number of laborers of any nationality supplied on short notice anywhere. Commissary conducted on a new system; courtesy, promptness, efficiency.

The Central Labor Agency, *Main Office*: 139 Mulberry St., N. Y.

IT WILL PAY YOU TO GET IN TOUCH WITH US

Skilled and Unskilled Labor All Nationalities

Men for Mines, Mills and Construction work supplied in any number.

Commissary and Boarding Camps our Specialty.

INTERNATIONAL LABOR AGENCY

153 Bowery, 355 Bowery, **New York City**

Phones Orchard { 77 7075 3416

SEARCHLIGHT SECTION

Employment Department

POSITIONS WANTED

STRUCTURAL designer and draftsman, 31, seven years' experience design, layouts, detailing; technical graduate; desires permanent connection. PW143 (Pa.)—Eng. News-Record, Phila.

Superintendents

SUPERINTENDENT of construction; first-class executive, broad experience; difficult foundations, locks, dams, bridges, building and industrial plant construction; concrete a specialty. PW1001—Eng. News-Record.

FOREMAN, 40 years old; does not drink; understands pile driving, sheetpiling and coffer-dams; all kinds, both wood and steel. Fred C. Smith, R. F. D. No. 1, Richland, N. Y.

SUPERINTENDENT of construction for general contractor; 13 years' field and office experience in building construction; good executive, employed, age 35; available July 1st. PW927 (Mass.)—Eng. News-Record.

TRESTLE foreman; American; 45; married; 16 years' experience on temporary trestles for steam shovel work and flumes for hydraulic sluicing; highest references; 7 years in Latin America; speaks Spanish; go anywhere. PW5—Eng. News-Record.

CONTRACTOR'S assistant. Superintendent, estimator, general superintendent; American, 35, 6 years' experience civil engineering and 12 years' general contracting experience; good organizer, broad field and estimating experience in roads, pavements, sewers, dams, bridges and reinforced-concrete; location immaterial; salary open to offer. PW163 (Conn.)—Eng. News-Record.

SUPERINTENDENT construction, office, theater, schools and mill buildings, steel brick and reinforced concrete; 18 years in charge; 6 years with previous employer, 3 years present; age 40; available July 15. PW162 (Tex.)—Eng. News-Record, Chicago.

SUPERINTENDENT of construction or manager for general contractor; ten years' experience in all branches of building construction; capable estimator; technical education and broad practical experience; age 35; available now. PW 157 (N. Y.)—Eng. News-Record.

SUPERINTENDENT, 12 years in charge of large constructions, tunnels, heavy trench, foundation and irrigation work, underground, reinforced concrete and difficult excavation a specialty; first-class practical all-round man; best references. PW148 (N. Y.)—Eng. News-Record.

POSITIONS WANTED

SUPERINTENDENT of construction for general contractor, reinforced concrete a specialty, graduate civil engineer, hustler, economical organizer, finishing present work July first, first-class crew following, desires independent position or will contract for reinforced concrete work. Location, New York City or State. PW104 (N.Y.)—Eng. News-Record.

MANAGER or superintendent manufacturing or power company, wants better position; familiar modern business and efficiency methods and chemical, electrical, steam, hydraulic engineering; in responsible charge building large chemical plant; present salary $3000. PW138 (Cal.)—Eng. News-Record, San Francisco.

SUPERINTENDENT, 40; 15 years' practical experience on heavy construction; first-class executive, with large following; willing to go anywhere. PW987 (Can.) Eng. News-Record, Chicago.

QUARRY and crusher superintendent wants position; 12 years' experience; straight and sober; report in 6 days. PW78 (N Y.)—Eng. News-Record.

GENERAL foreman, carpenter and concrete foreman; age 40; 20 years' experience on concrete arch bridges, sewage treatment and water purification plants, aqueducts, tunnels and heavy timber structures; will go anywhere. PW988 (Can.) —Eng. News-Record, Chicago.

SUPERINTENDENT specializing organization and low costs, installations and heavy construction; fluent Spanish and Portuguese, foreign and domestic experience. PW151 (N. Y.)—Eng. News-Record.

INSPECTOR or foreman, American, experienced, highway, bridge, culvert, construction. Vicinity New York. PW120 (N.Y.)—Eng. News-Record.

SUPERINTENDENT or carpenter foreman for reinforced concrete or construction open for position. PW122 (N.Y.)—Eng. News-Record.

INDUSTRIAL ENGINEER

Assoc. Mem. Am. Soc. Mech. Eng.

with several years' American experience, especially in textile and paper, in accepting an influential position at a Technical University in Russia, wishes to get in touch with American manufacturers and engineering firms that contemplate foreign export trade. PW46 (Mass.)—Eng. News-Record.

Position Wanted by Civil Engineer with

UNUSUAL EXECUTIVE ABILITY

Age 35. Graduate Engineer. Associate Member of American Society of Civil Engineers. Has held important positions of responsibility and trust for eleven years in railroad, irrigation, drainage, and general development work. Is a good organizer, has good business judgment, and can design and direct work of large magnitude. Salary of present position $6000 per year. Leaving because of lack of future.

PW101 (Fla.)—Eng. News-Record, Phila.

POSITIONS WANTED

GENERAL or carpenter foreman, age 48. 17 years' experience in modern construction, business and residential. Energetic, competent and reliable. Best references; go anywhere. PW95 (N.Y.)—Eng. News-Record.

BUILDING superintendent, 31, graduate in civil engineering, Mass. Inst. Technology; 10 years' building experience in Eastern and Central States as estimator, contractor, superintendent; available at once; Chicago or New oYrkinterview. PW164 (Wis.)—Eng. News-Record, Phila.

Miscellaneous

ENGINEER; 28; three years' technical training, six years railroad location, mill construction, sewers, surveys, drafting. PW39 (N. Y.)—Eng. News-Record.

PORT ENGINEER; Assoc. Mem. Am. Soc. of C. E., desires engagement about Aug. 15; in charge of large works; twenty years' active practice; salary, $3000. PW73 (Cal.)—Eng. News-Record, San Francisco.

VALUATION engineer, technical training, three years' valuation experience with Interstate Commerce Commission as junior engineer; two years' city valuation experience; three years railroad construction experience; age, 28; reference as to character, personality and professional ability furnished; available July; Salary, $150 month. PW76 (Ill.) —Eng. News-Record, Chicago.

BUILDING specification writer—An exceptionally capable writer of building specifications desires position with a busy firm; have had ten years' experience, and have specified over six million dollars worth of work during the past year; am thoroughly familiar with industrial buildings and reinforced concrete. PW997 (Pa.)—Eng. News-Record, Phila.

CONSTRUCTION engineer would like permanent position with contractor or engineer; thoroughly familiar with subway and sewer construction; capable estimator; location immaterial; salary $150; available July 15th. PW56 (N. Y.)—Eng. News-Record.

ENGINEER, industrial railway, experience purchasing, selling, designing; moderate salary; American, 32, married. PW139 (N. Y.)—Eng. News-Record.

POSITION with contractor; municipal and sanitary engineer, graduate, 25, assistant in design, have charge construction pavements, sewers, water, gas, ornamental lighting; business and executive ability, desires to get into contracting game for all there is in it. PW140 (Ind.)—Eng. News-Record, Chicago.

CONTRACTOR'S engineer, superintendent, 33, Assoc. M. Am. Soc. C. E., 13 years' railroad, concrete bridges, arches, sewers, disposal plants, pile driving, difficult excavations; good organizer; salary $225; Philadelphia interview. PW 142 (N. J.)—Eng. News-Record, Phila.

YOUNG man, two years' technical training, knowledge surveying, desires position with contractor, surveyor; capable plotting notes. C. J. B., 344 East 84th St.

SHIPBUILDING or dredging engineer, technical graduate, 15 years' experience as engineer and executive on wharves, foundations, dredging and harbor improvements, desires position with shipbuilding or dredging company. PW147 (R. I.)— Eng. News-Record.

SEARCHLIGHT SECTION

Employment Department

POSITIONS WANTED

YOUNG MAN, 23, with some technical and mechanical experience in electricity, desires connection with a surveying party; able to furnish highest credentials. PW 145 (N. Y.)—Eng. News-Record.

ASPHALT plant inspector; chemist capable of making tests, analysis of materials and pavement, and figuring mixtures. Very best references. PW96 (Ill.)—Eng. News-Record, Chicago.

COLLEGE man, general technical education, 10 years' experience in architects' and builders' offices, desires position as architectural superintendent, or in estimating department with a contractor. PW112 (N.Y.)—Eng. News-Record.

POSITION of trust where ability will count. Qualified as stenographer, typewriter, bookkeeper, etc. Experienced in estimating and the supervision of construction work in all its branches. PW 113 (N.Y.)—Eng. News-Record.

YOUNG man, 19, one year in engineering college, wants work near New York City for the summer. PW114 (N.Y.)—Eng. News-Record.

VALUATION engineer, married man, under thirty, with six years' railroad, four years' valuation experience, knowledge of details, capable of taking charge of office, now employed, desires position, preferably large town. PW126 (Kansas)—Eng. News-Record.

TIMEKEEPER; cost man, 15 years' experience on construction work. First class references or bond given. Will go anywhere. Would like to go to South America. Age 33. PW131 (Ill.)—Eng. News-Record, Chicago.

TIMEKEEPER; Syracuse University student wishes to do clerical work and make himself generally useful on a construction job. Report at once. Salary fifteen dollars. PW129 (N.Y.)—Eng. News-Record.

Your Advancement

is largely in your own hands—it is doubtful if anyone else is worrying over it

Better positions are constantly being secured through small advertisements in the "Positions Wanted" Columns

60 cents for 20 words

POSITIONS WANTED

IS a technical training worth anything to you? I want to work into a responsible business position; graduate civil engineer, 26, and can give A1 references where have been doing construction work; vicinity New York. PW150 (N.Y.)—Eng. News-Record.

EVENING WORK WANTED

Graduate engineers in New York City want drafting and designing for side line or evenings; structural steel and reinforced concrete a specialty; excellent references. W983 (Pa.)—Eng. News-Record, Phila.

AGENTS AND SALESMEN

Sales Promoter Wants Position

SALES PROMOTER—Successful specialty sales manager and salesman, especially good on introductory work, is open for high-grade connection July 1; enthusiastic, convincing talker, has initiative, stability, good appearance and judgment; can handle large business; American born, single, technically educated with practical experience; member A. S. M. E.; age 37; has covered territory from New York to San Francisco; will go anywhere; no objection to long trips; salary, $2500. W154 (Cal.)—Eng. News-Record, San Francisco.

Representative Seeks Position

RESPONSIBLE position as executive or sales representative in Chicago district for manufacturer of a reliable product; am married, 37 years of age, with initiative and ideas, and measure success only in services rendered; am technical graduate in mechanical and structural engineering; unusual ability to direct men and handle important matters, having had fourteen years' experience; large acquaintance in territory. W161—Eng. News-Record.

Mechanical Engineer Wants Position

YOUNG Swedish mechanical engineer recently arrived from Russia, after several years' stay there, and knowing well the Russian language and commercial situation, desires to get in touch with an American firm in order to return later to Russia for this firm. W134—Eng. News-Record.

BUSINESS OPPORTUNITIES

Man With Capital Wanted

AN EXPERIENCED man wanted, having from ten to twenty thousand dollars to join with the advertiser in the development of a plant for the manufacture of brass valves, etc.; yearly business of fifty thousand waiting. BO66 (Pa.)—Eng. News-Record, Phila.

PATENT ATTORNEYS

IMPROVEMENTS wanted. Send for free bulletins listing manufacturers' wants and book "Inventions—Patenting and Promoting." Lancaster & Allwine, 272 Ouray Bldg., Washington, D. C.

WANTED

Drafting

Complete drawings made from sketches; map work a specialty; computations and tabulations of hydraulic data. W895 (Ill.)—Eng. News-Record, Chicago.

Work Wanted

for steam shovel and grading equipment; also tractor and 4-yd. trailor; available at present. W980 (N.Y.)—Eng. News-Record.

WANTED

Structural Designs

and details furnished on contract basis; all work guaranteed. "Engineering," 2339 North 21st St., Philadelphia, Penn.

Wanted at Once

for immediate shipment, any quantity of battery lead plates, sediment scrap copper and wire, brass and all other grades of scrap material. Write to us today for our prices. National Metal and Rubber Co., 31 India Wharf, Boston, Mass.

Engineering News, Vols. 72, 74, 75

wanted. Write Observer Printing House, Charlotte, N. C.

FOR SALE

Steel Stacks and Guy Wires

On account of enlarging our power plant and the building of a large brick stack we have for sale two steel stacks, collars and guy wires; one stack 150 ft. high, 54 in. diameter, one stack 105 ft. high, 48 in. diameter; delivery about July 1st; stacks can be examined at our works. Apply Western Felt Works, 4115-33 Ogden Ave., Chicago.

Derricks For Sale

TWO 20-35 ton capacity sectional steel guy derricks; 105 foot mast and 95 foot boom. 1¼ inch steel guys, 2 inch turn buckles, $2500 each. Overland Construction Company, New York Life Building, Chicago, Ill.

AN OPPORTUNITY EXISTS

for an active business man, preferably with technical training, with about $45,000 capital to

Purchase Controlling Interest

in long-established corporation in the Metropolitan district engaged in a manufacturing engineering business. Replies stating age, moral and business recommendations should be in detail and will be treated confidentially. Reason for this opportunity the death of an active member of the Company.

PO669—Eng. News-Record

Any one interested in

Crushed Stone—

think we have a proposition that will be time well spent in giving same a thorough investigation.

We have located on the B. & A. R. R., one-half distance between Pittsfield and Springfield, immense piles of clean pieces of granite, suitable to put into crusher. These piles have been accumulating for over thirty years.

Will give this material free of charge and would consider taking part interest with responsible parties.

Hudson & Chester Granite Co.
Chester, Mass.

SEARCHLIGHT SECTION

Miscellaneous

FOR SALE
Several
Contractors' Lights
Acetylene

Portable type lights in good operating condition. Practically unused. Immediately available.

Address: FS-99 (Md.) Eng. News-Record, Phila.

Eco Clock Company

Electric and Portable Watchman's Clocks accurately repaired. Dial orders solicited.

No. 197 Congress St., Boston, Mass.

BOILERS
1—30, 40 and 60 hp. locomotive type, on wheels
1—40-hp. locomotive type, on skids
BUCKETS
1—¾-yd. Hayward Orange Peel
1—¾-yd. Haiss Clam Shell
1—½-yd. Single Line Clam Shell
DERRICKS
2—40-ft. boom stiff-leg derricks, with blocks, fittings and bull wheel
HOISTING ENGINES
1—7¼ x 10 National D. D. D. C., with boiler
1—7 x 10 O. & S. 3-drum D. C., with boiler and swinger
1—7 x 10 Lambert D. C., D. D., without boiler
HAMMERS
3—Union, Nos. 2—3—6
2—McKiernan-Terry No. 5
PUMPS
1—Pulsometer Nos. 4, 5 and 8
1—6-in. Morris sand, direct connected to engine
1—10-in. Morris sand, direct connected to engine
GRADER
1—Good Roads road grader (new)
MIXERS
1—½-yd. Standard, gas engine on wheels
1—¾-yd. Ransome, gas engine with loader on wheels
WIRE ROPE
1000 ft. ⅝-in. Crucible Steel Rope
HOLDING DRUM
1—O. & S.
CONCRETE TOWER EQUIPMENT
2—½-yd. Ransome elevator buckets
2—¾-yd. Ransome Batch Hoppers
1—175 ft. chute
SHOVELS
1—No. 1 Thew revolving traction steam shovel equipped with ordinary and extra shipper shaft boom, ¾-yd. dipper
TRENCH MACHINE
1—Potter, 4-bucket type, spans trench 10½ ft. wide, 275 ft. long (will rent)

H. McK. GLAZEBROOK
143 Chambers Street, New York City
'Phone 1315 Worth

FOR SALE
Small Manufacturing Plant

at Plainfield, New Jersey, situated near freight depot; frontage 100 ft. on avenue, depth 150 ft., artesian well, sewer and electric lights.

Three modern manufacturing buildings, concrete block construction, frame office building; 50 H.P. horizontal tubular boiler, power connection, all of modern construction, three years old; **suitable for chemicals or any industrial purpose.** Particulars furnished on ,pplication to owners.

FS45 (N. J.)—Eng. News-Record

FOR SALE
HARBOR FRONT PROPERTY
Providence, Rhode Island
AN IDEAL FACTORY SITE

4½ Acres—440 ft. Harbor Front on Deep Water—Main Channel
Spur Track R.R. Facilities
¾ Mile from Center of City

Excellent Labor Conditions. Fronts on 3 streets. Immediate Possession. Several Buildings. Site of abandoned North Station Plant.

Apply to
PROVIDENCE GAS COMPANY
Providence, R. I.

FOR SALE
75 BARRELS OF GAS TAR

Tar located at Natural Bridge, N. Y., on the C&A Branch of New York Central Railroad.

For full particulars address,
Basic Refractories Corp., 114 North George St., York, Pa.

Get your copy in early—

Owing to tne holiday next week, the forms for the Searchlight Section of the

July 5th issue

of

ENGINEERING NEWS-RECORD

will close for press Monday night.

Little "WANT" cards bring big results in the News-Record

"Splendid Buys"—Special Weekly Snaps

1—Marion Model 31, excellent condition, one-yd. dipper **Traction Truck**, used but ten months, shop number about 3100, ready for shipment, F.O.B. Chicago.

1—Type B Erie Shovel, ½-yd., new August, 1916. Location, Illinois.

1—30-ton Vulcan Standard Gage, 4-wheel, 12 x 18 **Switching Engine**, splendid shape, carrying 140 lb. Located at St. Louis, Mo.

2—Milwaukee **Boilers**, 72 in. x 18 ft., Horizontal Tubular, built for 150 lb., will pass Hartford for 135 lb. or more, complete with all fittings, grates, headers, header valves, full flush fronts, splendid condition, price $2400 the pair, F.O.B. Commonwealth, Wisc.

1—8½ x 10 Lambert **Hoist**, with 50 H.P. Boiler, splendid condition, price $1050 F.O.B. Chicago.

1—Canton Hughes Duplex, compound high-pressure **Pump**, Shop No. 12824, size 12 x 18 x 10 x 18 in., suction 8 in., discharge 6 in. Capacity 800 gal. per minute. Used four months. Located at Chicago.

1—Ingersoll-Sargent Duplex Belt-driven **Compressor**, size 12 x 12½ in., Class J-1, with intercooler and sub-base. Capacity 472 feet. Located at Chicago. Excellent condition.

1—No. 1 Thew Shovel, 1¼ yd., traction wheels, Ohio boiler. First-class shape.

25—1½ yd. Western Side **Dump Cars**, steel truck, as good as new, F.O.B. Chicago.

1—120 K.W. Westinghouse **Generator**, complete, 3 phase, 60 cycle, 440 volts with exciter, switchboard with instruments thereon, exciter belt and cables. Price $1150 F.O.B. Chicago.

If in the market for SHOVELS, CRANES, HOISTING ENGINES, DRAGLINES, CRUSHERS and other equipment, wire or write us.

MARSH-BOTHE MACHINERY COMPANY
975 Old Colony Bldg., Chicago, Ill.

We want at once for our own use, a 15, 20 or 25-ton

Locomotive Crane

Would take crane that needs repairing. Will trade 10-ton Industrial in part. Prefer long boom and outriggers.

Industrial Service Company
Lincoln, N. J.

WANTED

Electric Locomotive

24-in. gage—3-ton—230 volt.

Charles Warner Company, Wilmington, Del.

WANTED

5—Horse-Drawn Concrete
Distributing Carts

H. E. BUNCE, Olean, N. Y.

WANTED

A 300 HP., 2200 volt, 3 phase, 60 cycle, 600 RPM, constant speed, slip ring type, 3 bearing, induction

MOTOR

Give full description, price and delivery.

COURTER ELECTRIC COMPANY
Fort Plain, N. Y.

WANTED

Second-hand Williams **Crushing and Grinding Mills.** State location, price, terms, size, style and condition of mill, and when bought.

W100 (Ill.)—Eng. News-Record, Chicago.

WANTED—400 to 500 K.W.

Engine and Generator

Engine non-condensing, 100 lb. pressure. Generator 125 volts, D.C.

Address, W948—Eng. News-Record

WANTED

Macadam and Tandem Roller

Must be in good condition. *Address* W1004—Eng. News-Record

WANTED

CONTRACTORS' EQUIPMENT

of all kinds, for cash—also

PIPE AND FITTINGS

PIPE & CONTRACTORS SUPPLY CO.
3 Dover St., New York, N. Y.

We are **not** speculators but are prepared to buy outright

Abandoned Manufacturing Plants or Discontinued Businesses

We are **ready** to buy. Let us know what you have to sell.

FISHEL & MARKS, 3018 E. 55th St., Cleveland, O.

WANTED

LOCOMOTIVE CRANES

10 to 15 Tons

LOCOMOTIVES

Standard Gage, about 25 Tons

AIR COMPRESSORS

800 to 1500 cu. ft.

Send particulars, CASH. Contractor, W44—(N.Y.) Eng. News-Record

WANTED IMMEDIATELY

1—30-ton Locomotive Crane.
1—15- to 20-ton Locomotive Crane.
2—Concrete Paving Mixers.
10—Miles 20-lb. Rails.
4—24-inch Gage Locomotives, gasoline or storage battery.
Trenching Machine, to dig up to 4 ft. wide and 12 ft. deep.
2—Derricks and Hoisting Engines.
2—5-ton Motor Trucks.
Generator, 300-kw.

Wire what you have to offer.

HERBERT GIVIN CO., 30 Church St., New York, N. Y.

WANTED

Send us a list of any

EQUIPMENT

you may have which you wish to dispose of. ALSO STATE YOUR WANTS.

Miller-Crippen Equip. Co., Inc.
423 First Nat'l Bank Bldg., Syracuse, N. Y.

Keep your eye on the Searchlight and your advertisements in it.

SEARCHLIGHT SECTION

Second Hand Equipment

FOR RENT

(Rental to be applied on purchase if so desired)

or FOR SALE

DRAG LINES

1—Model 220 Marion, can be equipped for revolving stripping shovel, shop number 2839. (Has moved about 350,000 yds.)

1—Class 14 Bucyrus, shop number 720, 60-ft. boom, 2-yd. Page bucket.

1—3 T Monighan, shop number 205, latest walking device, 70-ft. boom, 3½-yd. special Page bucket, equipped with lighting plant, built new in 1914.

STANDARD STEAM SHOVELS

70 C Bucyrus (Massachusetts boiler), shop number 1473.

70 C Bucyrus, shop number 1246.

70 C Bucyrus, shop number 1287.

Model 61 Marion, shop number 2890.

45 C Bucyrus, shop number 1297.

45 C Bucyrus shop number 1202.

Standard 70-ton Bucyrus shop number 984.

Standard 70-ton Bucyrus, shop number 868.

Standard 70-ton Bucyrus, shop number 733.

1 Class F, 45-ton Vulcan.

BOILERS—Upright Type

6—20 hp.

1—15 hp.

2—12 hp.

PLOWS

2—Marion side plows—one right and one left, shop numbers 1523 and 1525.

DRILLS

Ingersoll-Rand steam drills.

2—gas Sparta, non-tractor drills.

PUMPS

1—4½ x 2¾ Pratt Duplex.

1—4½ x 2¾ x 4 Snow.

1—4½ x 3¾ x 4 Fairbanks.

1—7 x 4 x 8 American.

1—3½ x 2 x 3 Prescott.

1—Emerson deep well.

CARS—Dump

21—12-yd. standard gage Western air dump.

12—6-yd. standard gage dump (no air).

3 and 4-yd. 36-in. gage.

1½-yd. 24-in. gage.

45—heavy duty, 4-yd., Western 36-in. gage dump cars.

REVOLVING TRACTION SHOVEL

Model 28 Marion (Ohio boiler), shop number 3424.

Model 28 Marion (Ohio boiler), shop number 3235.

1—No. 0 Thew (butt joint boiler), shop number 702.

CABLE

5 coils of 1¼ Roebling steel cable, 40% off list.

1—reel (510 ft.) 1¼ Roebling steel wire, as good as new.

BUCKETS

1—2½-yd. Page drag line.

1—2½-yd. Bucyrus shovel bucket.

2—4-yd. Bucyrus shovel buckets.

1—1-yd. Clam Shell.

1—¾-yd. Clam Shell.

1—1-yd. Page Bucket.

LOCOMOTIVES

2—15 x 20 standard gage, saddle tank locomotives.

36-in. gage, 10-in. x 16-in., 18-ton, long tank, late model.

Vulcan

4—shop number around 1500.

Davenport

1—short saddle tank, shop number around 1000.

3—7-in. x 12-in., 24-in. gage, shop numbers 421, 1203, 1310.

2—late model, long tank, shop numbers 1133 and 1134.

SPREADER CARS

1—standard Western spreader.

1—36-in. gage Oliver.

BOILERS—Locomotive Type

1—100 hp.

1—40-hp. Nagel, practically new.

HOISTING ENGINES

1—10-in. x 12-in., double drum, cableway Lidgerwood, with boiler.

1—20-hp. Rumley traction engine.

SHEET PILING

72 pcs. Jones & Laughlin, 18 ft. long by 12 in. wide.

All of the above for immediate delivery.

Owned by us and sold under absolute guarantee of condition. Above equipment located at our yard at Clyde, Cook County, Ill., a suburb of Chicago.

CLAPP, NORSTROM & RILEY

12 and 14 South Canal St., Chicago, Illinois

Northwestern Branch: 1308 Pioneer Building, St. Paul, Minn.

RATES:

1 inch—$3.00

4 inches—$2.90 an inch

(The above rate applies to a 4-inch space in one issue, a 2-inch space in two issues, or a 1-inch space in four issues. The larger spaces following may be used up in a similar way).

8 inches—$2.80 an inch

15 inches— 2.70 an inch

27 inches— 2.60 an inch

BOILER

1—125-H.P. Locomotive

BUCKETS

15—1¼ and 1½ C.Y. Steubner Standard Self-Righting Contractors' Buckets.

1—Morrison, ¾ C.Y. Clam Shell

CARS

4—D.T. Flat Cars, 36-in. gage, 24 x 7 ft., 30,000-lb. capacity

30—½-yd. V type steel, two-way dump, 24-in. gage

40—1-yd. V type steel, two-way dump, 24-in. gage

40—Flat Cars, 24-in. gage

CONCRETE MIXERS

1—Smith No. 4, 18 cu.ft., 7 x 8 Vertical Engine, Conical Mixer

1—Austin Cube, 17 cu.ft., 4 cylinder, Buffalo Gasoline Engine No. 2239

4—Lakewood No. 28, Side Loaders, Steam Engine

SHOVEL

1—No. 1 Thew Revolving Traction Shovel, ¾ C.Y.

DOOLEY-KILLIAN CO., Inc.
26 Cortlandt Street, New York City

In Stock—Woodbridge, N. J.

2—100 H.P. Locomotive type **boilers**, 100-lb. pressure

1—100 H.P. Locomotive type **boiler**, 150-lb. pressure

1—125 H.P. Locomotive type **boiler**, 125-lb. pressure

Vertical boilers from 15 to 40 H.P.

627 cu.ft. Ingersoll-Rand belt-driven, low-pressure **air compressor**

2—3½ E Dake **swingers**

1—Counterweight **drum**

7 x 10 Lidgerwood D.D., D.C. **hoisting engine**, with boiler.

Steam Shovels, Locomotives, etc.

LINES FLYN COMPANY
30 Church St., New York City
Cortlandt 7867

SEARCHLIGHT SECTION

Second Hand Equipment

Sale of Machinery

Lincoln Park, Chicago, June 20, 1917.

Bids will be received by the Commissioners of Lincoln Park for the whole or any part of the following used machinery:

1—One 5 x 9 in. Jones-Troy Vertical Automatic **Steam Engine.**
2—One 5 x 10 in. Vertical **Steam Engine,** made by J. H. McEwen Mfg. Co.
3—One 10 x 12 in. **Hoisting Engine,** with 60 H.P. boiler, made by American Hoist & Derrick Co.
4—One Continuous Current **Generator,** 120 V-44 Amp., 5½ Kw.
5—One **Blower Fan,** 4 ft. 6 in. in diameter.
6—One 12-in. **Sand Pump** mounted on scow.
7—One 10-ton, 3-wheel Kelly Springfield **Steam Roller.**
8—One Upright **Boiler,** 48 x 10 (as is).
9—One 5-in. **Centrifugal Pump,** with Suction Hose—made by H. Channon Co.
10—One Gear Driven **Dinkey Engine,** good for 125 lb. steam pressure.
11—One **Gas Engine,** 8 H.P.
12—One Buffalo **Steam Pump,** 5½ x 3½ x 6 in.
13—One Clayton **Air Compressor,** 6 x 6 x 7 in.
14—One Austin Cube **Concrete Mixer,** steam driven, 11 cu.ft. capacity.

Items 1 to 7 and Item 14 can be seen at the Ship Yard in Lincoln Park. Items 8 to 13 can be seen at Lincoln Park Black Soil Plant, Tendens, Ill., on the Santa Fe R.R.

Bids will be received up until Friday noon, July 6, 1917, at the office of The Commissioners of Lincoln Park, Clark and Center Sts., Chicago.

All bids must be accompanied by a certified check in the amount of 5% of the bid. The right is reserved to reject any or all bids.

JOHN C. CANNON,
Superintendent and Secretary

Air Compressors

One Rand compound BB 3, capacity 1900 ft. per minute. Operated by Hamilton-Corliss Engine. Designed to operate with 150 pounds steam, compressing air to 90 or 100 pounds. Steam cylinder 16 x 30 x 30, air cylinder 28 x 17½ x 30.

One Sullivan class WB 2, capacity 1843 ft. per minute, simple steam and compound air. Steam cylinder 24-in., high pressure air cylinder 26 in., low pressure air cylinder 16½ in. Stroke 30 in. **Both in excellent condition and offered at extremely low prices.**

United States Equipment Company
208 So. La Salle Street
Chicago, Ill.

Cooper Corliss Cross Compound Heavy Duty Engines

We have for prompt delivery:

Three cross-compound engines, 14 x 30 x 36, serial number 1867-68 and 69. Hp. from 400 to 450, R.P.M. 125 at 150 lb. steam. Weight of engine, 87,000 lb.

Three low pressure air compressors direct connected to Cooper Corliss Engines, capacity 3890 cu.ft. Pressure from 30 to 50 lb.

One High pressure air compressor with Duplex Bass Corliss Engine and cross-compound steam cylinders, simplex duplex air cylinders, Steam cylinder high pressure 14 x 36-in., low pressure 26 x 36-in., air cylinder 14¼ x 36-in. stroke, capacity 920 cu.ft. air per minute at 85 R.P.M. at 100 lb. air pressure. Serial number of air cylinder 7399-7400.

The above at sacrifice prices to quick buyers.

Marine Metal & Supply Company
167 South Street, New York City

Hydro-Electric Power Equipment For Sale

1—350 B.H.P., 900 R.P.M., **turbine** water wheel, including flywheel and 28-in. butterfly valve.
1—Size "O" Hydraulic **Governor.**
1—200 K.W., 2300 volt, 900 R.P.M., 60 cycle,
1—3 phase **Alternator.**
120 volt, direct current, direct connected **Exciter.**
1—3 phase generator **Panel**
1—Bracket type Tirrill **Regulator.**
2—125 K.W. 2300-20,000 volt step-up, 60 cycle, O.F.W.C. **Transformers.**
2—125 K.W., 20,000-440 volt step-down, 60 cycle O.F.W.C. **Transformers.**
3—10 K.W., 440-110 volt lighting **Transformers.**
1—2 K.W., 2300-110 volt lighting **transformer.**
1—0.6 K.W., 2300-110 volt lighting **transformer.**
1—75 H.P., 60 cycle, 3 phase, 680 R.P.M., 440 volt induction **Motor,** with potential starter.
1—20 H.P., 60 cycle, 3 phase, 1130 R.P.M., 440 volt induction **Motor,** with potential starter.
5—Cell, 20,000 volt Aluminum Lightning **Arresters.**

This appartus is all in good order, practically good as new as has been run less than four weeks. It is a complete hydro-electric power plant.

Above with some other good as new material is for sale. This apparatus is in Idaho.

For prices and further particulars write

W. H. CARLETON, Leigh, Neb.

AIR COMPRESSORS

Ingersoll 2-stage, 1650 ft.
Ingersoll Straight Line, 1500 ft.
McKiernan Straight Line, 543 ft.
Complete with receivers.
Chas. F. Avery, 45 Broadway, N. Y. City.

AIR COMPRESSORS 100 lb.

2600 cu.ft. Ing.-Rand Imp. Ty. X, belted.
1390 cu. ft. Ing.-Rand belted 200 H.P. motor
2—1050 cu.ft. Chic. Pneu., steam driven.
707 cu.ft. Norwalk, double tandem, steam.
431 cu.ft. Clayton duplex, steam, two-stage.
310 cu.ft. Ingersoll-Rand, N.E. 1 belted.
130 cu.ft. Chic. Pneu., tandem, steam.
45 cu.ft. Bury, 6 x 6 in. belt driven.
A. G. Schoonmaker & Sons, 25 Church St., N. Y.

FOR SALE

Three Steam Power Plants

one 120 K.W., one 150 K.W., and one 200 K.W., all 250 volt D.C., complete with boilers, engines, generators, switchboards, pumps and piping systems. In excellent condition and can be inspected while now running. Bargains to quick buyers. Specifications and prices upon request.

AMHERST COAL COMPANY
Huntington, W. Va.

Generating Unit

FOR SALE

Erie Engine about 150 to 200 H.P., also belt connected Westinghouse Generator, 120 KW., A.C., 60 cycle, 2 phase. In good order, but too small for owner's present use.

Address "Engine"
FS-97 (Phila.) Eng. News-Record, Phila

FOR SALE

AIR COMPRESSOR

One Chicago Pneumatic belted about 137 feet free air per minute at 100 lb. pressure. Excellent condition. Size 9 x 11.

F. MAYER
1601 Monadnock Bldg., Chicago, Ill.

Little "WANT" cards bring big results in The News-Record

SEARCHLIGHT SECTION

Second Hand Equipment

POWER MACHINERY

HOISTS—Electric Driven

2—Single drum Lidgerwood single drum mine hoists, drums 30 in. dia. x 24 in. face x 4 in. flanges, gear ratio 18:126, geared to Westinghouse type 10-K motors, series wound, with R-32 controllers with grid resistance. One motor 220 volts 525 RPM., other 550 volts, 878 RPM.

3—Lidgerwood single drum mine hoists, drums 30 in. dia. x 24 in. face x 4 in. flanges, direct geared to General Electric motors, type IQC, form M, 2 ph., 60 cy., 220 volts, slip ring, 830 RPM., complete with T-10 controller.

5—Lidgerwood single drum mine hoists, drums 30 in. dia. x 24 in. face x 4 in. flanges, direct geared to Westinghouse motors, type 10-K, series wound, 52 hp., 220 volts direct current, 700 RPM., complete with R-32 controllers and grid resistances.

Direct Current Motors

250 VOLTS

1—	500	H.P.	Thompson-Ryan	305	R.P.M.
1—	500	"	Ft. Wayne	380	"
1—	350	"	Ft. Wayne	450	"
1—	310	"	Bullock	350	"
1—	200	"	Westinghouse	560	"
1—	180	"	Westinghouse	450	"
1—	170	"	Crocker-Wheeler	480	"
2—	150	"	Crocker-Wheeler	450	"
1—	110	"	Westinghouse	900	"
1—	90	"	Ft. Wayne	660	"
6—	90	"	Crocker-Wheeler	660	"
1—	75	"	Crocker-Wheeler	1100	"
1—	55	"	Allis-Chalmers	550	"
1—	50	"	Triumph, IF	80	"
4—	50	"	Crocker-Wheeler	625	"
1—	40	"	Gregory	600	"
1—	40	"	Triumph, IF	700	"
1—	32	"	Crocker-Wheeler, CM	1000	"
1—	30	"	General Electric	610	"
3—	30	"	Westinghouse	1700	"
1—	30	"	Westinghouse, S	1025	"
3—	30	"	Northern	610	"
1—	30	"	Allis-Chalmers	575	"
1—	30	"	Allis-Chalmers	950	"
1—	30	"	Crocker-Wheeler	900	"
4—	25	"	Crocker-Wheeler	750	"
1—	25	"	Sturtevant	800	"
1—	20	"	General Electric, RC	1150	"
1—	15	"	Holzer-Cabot	1150	"
1—	15	"	Crocker-Wheeler	750	"
17—	15	"	Crocker-Wheeler	800	"
3—	15	"	National	740	"
1—	12	"	American	1170	"
1—	10	"	General Electric, CE-B	1375	"
1—	7½	"	C. & C.	1200	"
2—	6	"	Westinghouse, S	1465	"
2—	5	"	General Electric	360	"
2—	5	"	Sprague Lundell	1050	"
3—	5	"	Westinghouse	390	"
1—	5	"	Northern	1200	"
1—	5	"	General Electric	1725	"
1—	4½	"	General Electric, CE-B	700-1500	"
1—	3½	"	Westinghouse	800	"
3—	3	"	Westinghouse, S	1800	"
1—	3	"	Crocker-Wheeler, CCM	1000	"
1—	3	"	Westinghouse	975	"
1—	3	"	Crocker-Wheeler, CCM	900	"
1—	2	"	Crocker-Wheeler, CCM	975	"
1—	2	"	Triumph	1750	"
1—	2	"	Gibbs	1200	"
2—	1½	"	Crocker-Wheeler, CM	1800	"

Alternating Current Motors

60 CYCLE

No.	*H.P.*	*Manufacturer*	*Type or Form*	*Phase*	*Voltage*	*Speed*
1	900	Westinghouse (2 bearing)	CCL	3	2200	690
1	800	Westinghouse (3 bearing)	C	3	440	382
1	500	Canadian Westinghouse (3 bearing)	CCL	3	500	435
1	250	General Electric (2 bearing)	L	3	440	514
1	200	Westinghouse	CS	3	440	580
1	200	General Electric (Slip Ring, 3 bearing)	M	3	440	600
1	200	General Electric (3 bearing)	L	3	440	600
1	200	General Electric (2 bearing) New	M	3	220	600
1	150	General Electric (Slip Ring) New	M	3	2200	450
1	150	General Electric (Slip Ring) New	M	3	440	4450
3	150	Westinghouse (3 bearing)	CCL	3	440	580
1	150	Allis-Chalmers (Slip Ring) New	ANY	3	440	600
1	150	Westinghouse (Slip Ring)		3	550	720
1	150	General Electric (Slip Ring)	M	3	440	720
1	150	Westinghouse	CW	3	440	720
1	150	General Electric (2 bearing)	K	3	440	720
3	100	Westinghouse (Slip Ring)	Variable Speed	3	440	600
1	100	General Electric	L	3	440	600
1	100	General Electric	M	3	2200	720
1	100	General Electric	K	2	220	720
1	100	General Electric	L	3	440	1200
1	85	General Electric	K	3	2080	720
1	75	Burke	K	2	220	360
1	75	General Electric	L	3	440	514
5	75	Westinghouse (Slip Ring)		3	550	1200
1	75	Westinghouse	CCL	2	2200	1200
1	52	General Electric (Slip Ring)	IQC-M	2	440	900
1	50	Westinghouse	CCL	3	440	850
3	50	Allis-Chalmers (Slip Ring) New	ANY	3	220	900
1	50	Fairbanks-Morse	B	3	220	900
1	50	General Electric	K	2	220	900
1	50	Fort-Wayne	C vertical	2	220	1800
1	40	Allis-Chalmers		3	220	850
2	40	Westinghouse	CCL	3	440	850
2	40	Allis-Chalmers		2	220	850
1	40	Westinghouse	CCL	3	220	850
1	40	General Electric	K	2	220	900
1	40	Canadian Westinghouse	CCL	3	220	1120
2	35	General Electric	K	2	220	900
1	35	Allis-Chalmers		3	220	1200
1	30	General Electric	S	3	220	900
1	30	Westinghouse	C	2	400	1120
1	30	Allis-Chalmers (Slip Ring)	ANY	3	550	1160
1	30	Westinghouse	CCL	3	200	1200
1	30	Lincoln (Slip Ring) New		3	220	1200
1	25	General Electric		2	200	900
2	25	General Electric		3	500	1740
3	20	Westinghouse	CS	2	220	685
1	20	Wagner		2	220	850
2	20	Westinghouse	C	2	400	1120
1	20	Allis-Chalmers		2	220	1130
7	20	Fairbanks-Morse	KBV	3	220	1140
1	20	Allis-Chalmers (Slip Ring)		3	550	1160
1	20	General Electric	K	2	220	1200
1	20	Lincoln	"1"	3	220	1200
1	20	General Electric	K	3	440	1200
1	20	General Electric		2	220	1800
1	15	Crocker-Wheeler		3	220	565
1	15	Allis-Chalmers		3	440	680
1	15	Westinghouse	HF	3	220	850
1	15	Allis-Chalmers		3	440	860
2	15	General Electric	ITC-M	3	220	900
1	15	Allis-Chalmers		3	440	1130
1	15	Westinghouse	CS	2	440	1150
1	15	Allis-Chalmers (Slip Ring)	ANY	3	550	1160
3	15	Crocker-Wheeler		3	550	1200
1	15	Westinghouse	CCL	3	440	1200
1	10	Allis-Chalmers		3	440	680
1	10	Westinghouse	CCL	2	440	1120
14	10	Westinghouse	CS	2	220	1140
6	10	Ft. Wayne (back geared) (Slip Ring)	MA	3	220	1200
1	10	General Electric	KT	3	550	1200
2	10	General Electric	K	3	220	1200
2	10	Westinghouse	CCL	3	200	1200
1	10	Fairbanks-Morse	B	3	220	1200
1	10	General Electric (Vertical)	C	3	440	1800
1	10	Allis-Chalmers		3	220	1800
1	10	Fairbanks-Morse	B	3	220	1800
1	7½	General Electric	L	2	220	1200
1	7½	Fairbanks-Morse	B	3	220	1200
3	7½	Westinghouse	CCL	3	200	1700
1	7½	Fort Wayne		3	220	1800
1	7½	Western Electric	KT-180	3	220	1800
2	7½	General Electric	C	3	220	1800
1	7½	General Electric	C	2	220	1800
1	6	General Electric (Slip Ring)	M	2	220	900
1	5	General Electric		2	220	1800
1	5	Fort Wayne		3	110	1800
1	5	General Electric	C	3	440	1800
2	5	General Electric	C	2	220	1800
1	4½	Lincoln		2	220	720
1	4	General Electric	K	3	220	900
1	3	Westinghouse	CS	3	550	1200
9	3	General Electric	C	3	440	1800
1	1	Triumph		2	115	1700
1	1	General Electric	CG	3	220	1800

MAC GOVERN & COMPANY, INC.
114 Liberty Street, New York

SEARCHLIGHT SECTION

Second Hand Equipment

HOISTS

2—Thomas Elevator Co., S.D. double cage Mine Hoists, 50 in. drums, 24 grooves 1¼ cable, direct geared to 82 H.P. G. E. slip ring motor, 220 or 440 Volts, 3 ph., 60 cy., 514 rev.

A. C. UNITS

2—100 K.W. G. E. Curtis Turbo Units, any voltage, 3 ph., 60 cycles, 3600 rev., 1 cond. and 1 non-cond.
1—250 K.W. Westinghouse, 2300 Volt, 3 ph., 60 cycles, A.C. Generator, direct connected to 18 x 36 Corliss engine.

BOILERS

150 H.P. Heine, 160 lb.
225 H.P. Stirling, 150 lb.
2—250 Stirling, 140 lb., 2—420 H.P. Geary, 175 lb.

ENGINES—MOTORS—D.C. and A.C. UNITS.

HAROLD R. WILSON MACHINERY CO.
417 Pine Street, St. Louis, Mo.

Upright Boilers For Sale

One Manning Type Boiler, 180 H.P., 60 in. diameter Shell, 125 lb. W. P.
One Straight Shell Boiler, 150 H.P., 72-in. diameter x 13 ft. 6 in. high, 125 lb. W. P.

Boilers fitted with all castings and trimmings.

NEW ENGLAND IRON WORKS COMPANY
365 Summer St., Boston, Mass.

CRUSHERS AND BOILERS

1—No. 5 "Gates" style K gyratory
1—No. 4 "McCully" gyratory
1—No. 00 "Gates" style D gyratory
1—No. 15 "Champion" 11 x 22 in. jaw, with elevator, buckets and screen, mounted on wheels
1—9 x 15 in. "Fraser-Chalmers" jaw
1—No. 4 "Champion" 9 x 15 in. jaw, with elevator, buckets and screen, mounted on skids
1—No. 4 "Champion" 9 x 15 in. jaw, with elevator and screen mounted on wheels
1—No. 3 "Champion" 7½ x 13 in. jaw, with elevator and buckets mounted on goose neck truck
1—11 x 16 in. "Reliance" jaw on truck with elevator and buckets.
1—Set crushing rolls 25 x 16 in. "Mosser"

COMBINED BOILERS AND ENGINES

1—20 H.P. "Farquhar" on wheels
1—18 H.P. "Farquhar" on wheels

BOILERS

100 H.P. "Ames" Empire type
90 H.P. "Ames" locomotive
48 in. x 10 ft. "Nagle" vertical
49 in. x 8½ ft. "Erie City" vertical
48 in. x 7 ft. "O & S" vertical
36 in. x 8 ft. "International" vertical
36 in. x 5 ft. "O & S" vertical
30 in. x 7 ft. "Sotter Bros." vertical

L. F. SEYFERT'S SONS, INC., 437 N. 3rd Street, Philadelphia, Pa.

BOILERS

Locomotive Type

One 20-hp. Three 50-hp. One 70-hp. Mass. One 80-hp. One 100-hp. Two 125-hp.

Vertical

Two 12-hp. One 15-hp. One 20-hp.

Economic

One 80-hp. Erie City return - tubular Economic boiler on skids.

Return Tubular

Three 125-hp. One 100-hp.

United States Equipment Company

210 So. La Salle Street
Chicago

Private Equipment

2¼ miles 16-lb. portable 24-in. gauge track.
2 miles 20-lb. Koppel portable 24-in. gauge track.
2 locomotives.
1 direct-current generating unit.
3300 ft. 1-in. transmission plow steel rope.
1600 ft. 8-in. Heltzel concrete forms.
5 Maney scrapers, 1 yd.
1 Avery traction engine with roller attachment.
1 Monarch tandem steam roller, 5 ton.
1 Portable Case 20-H.P. engine.
1 National elevating grader.
1 Ransome paving mixer, 9 cu.ft.
1 Foote gasoline mixer, 10 cu.ft.
7 dump wagons, 1½ yd.
2 tractors (steam and gasoline).
6 Troy reversible spreaders, 4 yd.
5 Port Huron reversible steel spreaders, 6 yd.
114 Pieces Lackawanna sheet piling, 7-in. x 14-ft.

DANIEL B. STRALEY,
Crown Point, Ind.

Boiler and Engine For Sale

60 H.P. Boiler and 75 H.P. "Frost" Steam Engine. Boiler, Murry H. T. Type. Used but six months, complete with all fittings.

COUNTY SUPPLY CO.
Box 219 Sioux City, Ia.

Three Phase, 60 Cycle A. C.

MOTORS

FOR SALE

	H.P.		Speed
2	12	Fairbanks-Morse, 220 or 440 v., slip-ring, variable speed	1200
1	12	Gen. Elec., form K., 110 v.	720
1	12	Gen. Elec., form K, 550 v.	720
2	15	Westinghouse, 220 or 440 v.	1750
2	15	Watson, 220 or 440 v., slip-ring, variable speed	1720
3	15	Fairbanks-Morse, 220 or 440 v., slip-ring, constant speed	1200
1	15	Westinghouse vertical, 220 or 440 v.	1135
2	15	Allis-Chalmers, 220 or 440 v.	860
2	15	Westinghouse, 220 or 440 v.	850
1	15	Westinghouse, elevator motor, with drum-type reversing switch, 220 or 440 volt	720
4	20	Westinghouse, 220 or 440 v.	1750
1	75	General Electric, form K, 220 v.	720
7	75	Allis-Chalmers, 220 or 440 v., vertical shaft	490
7	75	Allis-Chalmers, 220 or 440 v.	490

We Buy for Spot Cash
Rent, Sell, Exchange and Repair

Send for our "*Monthly Bargain Sheet*" showing net prices on *Second-hand* electrical motors and generators. Overhauled "like new."

Largest stock of electrical machinery (second-hand) in America.

GREGORY ELECTRIC CO.
CHICAGO, ILLINOIS

FOR RENT—FOR SALE

Portable Boilers

Hoisters, Air Compressors, Concrete Mixers, Centrifugal Pumps, Diving Outfits, Rock Drills, Derricks, Pile Drivers and General Contractor's Equipment, both Steam and Electrically Driven.

MARVIN BRIGGS, Inc. 167 Sixth St.
Tel. South 5471 Brooklyn, N. Y.

FOR SALE—4—300 H.P. Sterling

WATER TUBE BOILERS

Like New

5 HOISTING ENGINES

O. R. Whitney, 39 Cortlandt St., N. Y. City

New Hoisting Engines and Boilers

1—6½ x 8 D.C., D.D., Hoisting Engine
1—10 H.P. Electric Hoist, 220 V., D.C.
2—12 H.P., 1—20 H.P., 1—40 H.P. Vertical Boilers, all new, full factory guarantee

H. W. DYAR, 140 S. Dearborn St., Chicago, Ill.

FOR SALE

One new 3½ S. B. left-hand Dake

Swinging Engine

$225. This engine has never been used and is located at Lexington, Ky., ready for immediate shipment.

Armstrong Engineering Co.
Taylorville, Ill.

SEARCHLIGHT SECTION

Second Hand Equipment

First-Class Equipment and Immediate Shipment

This valuable combination is hard to find at the present time, and you should be one of the many who have taken advantage of it.

STEAM SHOVELS AND EXCAVATING MACHINERY

Quantity	Make	Description
1	Bucyrus	Model 70-C steam shovel, with 2¼ cu.yd. dipper No. 1327, built 1910, all overhauled and in first-class condition
1	Marion	Model 20 steam shovel with standard boom and 1¼ cu.yd. dipper, No. 1699, built 1907, all overhauled
1		Short tunnel boom and dipper arm with 1 cu.yd. dipper for above shovel, never used
1		Short tunnel boom and dipper arm, 1 c.y. dipper for above shovel
1	Atlantic	Steam shovel with 2¼ c.y. dipper, built 1910; Shop No. 41999
1	Bucyrus	Model 70-C steam shovel with 2¼ c.y. dipper No. 1685, complete and in good working condition

LOCOMOTIVES

13	Porter	36-in. gauge, saddle tank locomotives, 10 x 16, all overhauled and in good working order
1	Davenport	36-in. gauge, saddle tank locomotive, 11 x 16, all overhauled and in good working condition, Shop No. 833, built 1908

CARS

40		Standard gauge flat cars 60,000 capacity, some of them in first-class repair, will pass R. R. inspection, others good for private use, with slight defects, which will not pass R. R. inspection
225	H.S.Kerbaugh	36-in. gauge 4 c.y. 1-way dump cars, all overhauled
4	H.S.Kerbaugh	36-in. gauge 1.3 c.y. rotary dump cars (revolving heading cars), new

AIR COMPRESSORS AND RECEIVERS

1	Ingersoll-Rand	Class "A" compressor 24 x 24¼ x 30 in. Shop No. 2855, in present working condition
1		Set compressor plant fittings and piping
4	Ingersoll-Rand	Air receivers 54 in. x 12 ft., built 1911
1	Ingersoll-Rand	Air receiver 54 in. x 12 ft. built 1913 (all receivers as good as new)
2	Laidlaw-Dunn-Gordon	Air compressors 25 x 15 x 18, belt driven, without motors, Shop Nos. 21744-5, built about 1910, received new air end 1914, in very good working condition
1	Ingersoll-Rand	Class "A" compressor 24 x 24¼ x 30 in., Shop No. 6353, built about 1904
1	Ingersoll-Rand	After Cooler 57 in.

ENGINES

1	Fairbanks	Gas engine, 8 H.P., vertical, mounted on wheels, with 2 fly wheels and 2 pulleys, with gasolene tank and water tank, Shop No. 9471, in good repair
1	Nagle	Stationary engine, 8 x 12, Shop No. 11426
1	Nagle	Stationary engine, 10 x 12, Shop No. 2676
1	Woodbury-Booth	Stationary engine, 9 x 16, 35 H.P., no number, complete, in good repair
1	Woodbury-Booth	Stationary engine, 8 x 14, 30 H.P., no number, complete, in good repair
1	Brownell	Stationary engine, horizontal, 11 x 14, 52 H.P., built 1903, Shop No. 2522, complete, in first-class repair
1	Chandler-Taylor	Stationary engine, 11 x 15, 60 H.P., complete, Shop No. 5518
1	Russell	Stationary engine, automatic, 11 x 14, 65 H.P., complete, Shop No. 01273
2	Westinghouse	Stationary engines, automatic, 10 x 9, 65 H.P., Nos. 2688-89, complete in all parts, in strictly first-class repair
1	Mundy	Hoisting engine, 7 x 10, D.D., D.C., link reverse, skeleton, Shop No. 2160
2	Lambert	Hoisting engines, 7 x 10, D.D., D.C., skeleton, built 1900-01, Shop Nos. 1928-9 and 2544, in first-class repair
1	Lambert	Hoisting engine, 7 x 10, D.D., D.C., skeleton, Shop Nos. 2371-2 and 1990, in fair condition
1	Lidgerwood	Hoisting engine, 7 x 10, D.D., D.C., skeleton, built 1904, Shop No. 22812
3	Lidgerwood	Hoisting engines, 8½ x 10, D.D., D.C., skeleton, Shop Nos. 21868, 21861, 14669
2	Flory	Propelling engines, 8½ x 10, D.C., skeleton, Shop Nos. 4598 and 5477
1	Lidgerwood	Hoisting engine, 7 x 10, D.D., D.C., boiler mounted
1	Dake	Swinging engine No. 3½, single drum E-2
1	Barber	18 H.P. D.C. gas engine, not complete
2	Flory	Hoisting engines, 50 H.P., No. 372, spec. compound geared, fitted with link motion, D.C., S.D., 48 x 24 in., Shop Nos. 4524-5

ELECTRICAL PLANT AND EQUIPMENT

4	Ingersoll-Rand	Electric wagon rock drills, Nos. 14, 25, 26 and 27, operated by motors, 3 phase, 60 cycle, 220 volt,
17	Ingersoll-Rand	5F electric pulsator rock drills, with pulsator, controller and tripods, 5 H.P. motors, 3 phase 60 cycle, 220 volt
1	Buffalo	Triplex pump, 11 x 10 in., with 75 H.P. motor, 3 phase, 60 cycle, 220 volt
2	Buffalo	Triplex pumps, 5½ x 6 in., with Westinghouse 7½ H.P. motor, 3 phase, 60 cycle, 220 volt
1	Morris	Two stage service pump, 6-in. suction, 4-in. discharge, direct connected to G. E. 25 H.P. motor No. 425982, type I-2-25-1500-K 220 volt, 25 cycle
1	Morris	Ditto, with motor No. 145083
1	Morris	Vertical 3-in. centrifugal pump, direct connected to G. E. vertical 5 H.P. motor No. 425985, type I-2-5-A-1500, form K, speed full load 1450, amps. 14, volts 2200, cycles 25
1	Morris	Ditto, with motor No. 425986
2	Flory	Cableway engines, with 300 H.P. motors, 3 phase, 60 cycle, 440 volts, with 2½-in. main cables, 2000 ft. long, with carriage, fall block, head tower sheaves, fall rope carriers, top tower castings, but without hoisting or hauling lines
16	Flory	75 H.P. electric hoists, 2 drum, with 11 H.P. electric swinging winches, motors 3 phase, 60 cycle, 220 volt
2	Williamson	75 H.P. electric hoists, 2 drum, with 7½ H.P. electric swinging winches, motors 3 phase, 60 cycle, 220 volt
5	MaineElec.Co.	75 H.P. electric hoists, 2 drum, with 7½ H.P. electric swinging winches, motors 3 phase, 60 cycle, 220 volt
1	Flory	4 drum electric hoist with 22 H.P. motor, 3 phase, 60 cycle, 440 volt
1	Flory	2 drum electric hoist with 22 H.P. motor, 3 phase, 60 cycle, 440 volt
1	Sheppard	Monorail hoist No. 1949, capacity 4 tons, with twin trolley motors, Westinghouse No. 711802 and hoisting motor G. E. No. 294254, 3 phase, 60 cycle, 220 volt
3	Allis-Chalmers	100 K.V.A., 60 cycle, single phase transformers, primary 2200 volt, secondary 240-280 volt
4	Gen. Elec.	667 K.V.A., 60 cycle, single phase transformers, type W.C., form E.I., primary voltage 7633-22900-39600, Y connection, secondary voltage 2200 volts, each
1	Gen. Elec.	10 K.W. transformer, 60 cycles, volts 1100-2200-110-220
1	Gen. Elec.	Transformer, type H, 25-10 K.W., 2080-2300-110-115, for lighting and operating gen. set, Shop No. 82163
2	Westinghouse	48 K.W., D.C. generators, 500 volts, amps. 96, R.P.M. 975, complete with switchboard, voltmeter and ammeter, Shop Nos. 315362-63
1	Gen. Elec.	10 H.P. motor No. 341465, type M.I.C., form B, 110 volt, 3 phase, 25 cycle, 1500 R.P.M., for rotrex pump
1	Gen. Elec.	30 H.P., D.C. motor, type MP4, form H, amp. 50, R.P.M. 1150, volts 500, Shop No. 64536
1	Gen. Elec.	15 H.P. motor, type T.T.C., 5009, form M, amps. 42, phase 3, cycles 60, volts 220, Shop No. 228862, with controller
1	Gen. Elec.	10 H.P. induction motor, type I-4, form K, 10 A 2200 volt, 750 R.P.M., for vertical priming pump, Shop No. 296305
9	Gen. Elec.	Type F, form K-20 oil switches, 2500 volt, 100-125 A, 3 pole
1	Gen. Elec.	Type F, form K-20 oil switch, 2500 volt, 300 amp., 3 pole
1	Gen. Elec.	Switchboard
1	Ransome	1 cu.yd. concrete mixer with 35 H.P., 3 phase, 60 cycle, 220 volt motor
1	Gen.Elec.	Induction motor No. 416954, type R 122, form G, 2 H.P., 1 phase, 25 cycle, 25-12.5 amp., 1480 R.P.M., 110-220 volts
2	Browning	15 H.P. motors, D.C., 57.5 amp., 1045 R.P.M., 220 volts, Shop Nos. 8356 and 8380

THESE AND MANY OTHER ITEMS INCLUDING TRACTION ENGINES, ROAD CARS, ROLLERS, GAGES, DRILLS, DERRICKS, PUMPS, BOILERS, BUCKETS, CONCRETE MIXERS, STONE CRUSHING EQUIPMENT AND WAGONS ARE TO BE FOUND, TOGETHER WITH LOCATION AND PRICES, IN OUR 8-PAGE LIST. SEND FOR IT TODAY.

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Machines for digging open ditches with sloping banks.

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Switch Boards, Volt Meters, and Ammeters
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1—9 x 10 D.C., D.D. Skeleton Hoist
2—7 x 9 Crane Elevator Hoists
1—5 x 6 D.C. Carlin Swinging Engine
1—1-bag Austin Paver, steam equipped
1—1½-yd. Hayward "E" Clam Shell Bucket
1—1-yd. Williams Clam Shell Bucket
1—½-yd. Hayward Orange Peel Bucket
1—600-gal. Studebaker Sprinkler
1—9 x 15 Western Crusher on wheels
1—12-ton Portable Bin, Elevator and Screen
1—5-ton Iroquois Tandem Roller
1—10-ton Iroquois Macadam Roller
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1—Gallon Scarifier
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2—1-yd. Hayward orange peel
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4—1½ yd. Steubner Self Righting.

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2—75-cu.ft. Steubner V-shape all-steel side dump, 5 ft. 9 in. wide, 2 ft. 3 in. high, wheel-base 42 in., dia. wheels 16 in., 30-in. gauge
8—1½-yd. Pettler, 24-in. gauge
15—4-yd. Western dump, 36-in. gauge

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1—Ingersoll-Rand 28 x 17 x 24 Imperial (type 10-2) belt driven, complete with all fittings and fitted with Corliss inlet valves and No. 6 outlet valves; size of flywheel, 54 in. x 10 ft.; good for about 2600 ft. per minute at 100-lb. pressure
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1—Fairbanks D.C. gas line-driven portable, with receiver; good for about 150 cu.ft.
1—Foster & Hosler air, D.C. to 6-H.P. gas engine; capacity 35 cu.ft. portable

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Complete plant including 4 Mosher Watertube Boilers, 150 to 200 H.P. each. 3 Class H. high pressure Air Compressors, 1400 cu.ft. each. 3—30 K. W. 110 V. Generators, Condensers, Pumps, Air Receivers, etc.

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1—8 x 14 Reliance No. 2425 Portable, complete with bins, screens and 18-ft. elevators, connected to No. 1 Bates & Edmond 18-H.P. gas No. 22484 type B, with magneto, clutch, and 26 x 9½ x 10 pulley

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5—7 x 7 vertical steam (Orr & Sembower)
1—8 x 8 vertical steam (Orr & Sembower)
1—4 x 5 vertical steam

HAMMERS

1—No. 2 Arnott steam
1—No. 4 Arnott steam
9—Drop hammers, various sizes, weights 2500-3600 lb.

HOISTS

1—40-H.P. Lambert S.D. electric No. 9022; length, 5 ft. 9 in.; width, 5 ft. 0 in.; dia. drum, 28 in.; width bet. flanges, 27 in.; grooved for ¾-in. rope, D.C. to Westinghouse Motor No. 798740, 220 V., 525 R.P.M., 180 amp.
1—30-H.P. Maine Electric Co. D.D., No. 1623, with swinging gear D.C. to Maine motor, 220 V., 15 Kw.
1—10-H.P. Lidgerwood Electric Hoist, D.D., 2-phase, 60-cycle 220 volt, A.C.

HOIST ENGINE

1—60 H.P. Lambert Electric Double Drum and Swinging Gear, 220 volt, D.C.

BOILER

1—50 H.P. Lidgerwood Upright

Note: See also Motors on Pumps

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1—20-H.P. Westinghouse, 220-volt, D.C., Type S.K., 900 R.P.M. (New)
1—13-H.P. Westinghouse Type S., 220-V., D.C., 630 R.P.M.
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1—10-H.P. Westinghouse Type S., 220-volt D.C., 1325 R.P.M.

LOCOMOTIVE

1—10 x 16 Porter, 36-in. gauge, 18 tons

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3—14 x 7 x 14 National, plunger type, Nos. 16447—16502—16703
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2—10 x 5 x 12 National, plunger type, Nos. 16612—16613
1—6 x 3½ x 10 National, plunger type, No. 16800
1—5 x 3 x 10 National, plunger type, No. 16799
1—6 x 5½ x 7 Blake, steam, duplex, 5-in. suction, 4-in. discharge, No. 30840
1—2-in. Douglas, double plunger
1—4-in. suction, 4-in. discharge, M orris Machine Works centrifugal No. 21171
1—7½ x 7½ x 6 Worthington duplex, No. 152807
1—6 x 7½ x 6 Worthington duplex, No. 13620
1—3-in. Worthington turbine, No. 4742, single stage, no motor
1—3-in. Worthington turbine, No. 4488, 3-stage, D.C. to Westinghouse 50-H.P. motor, 220 V., 131.4 amp., 3-phase, 60-cycle, 1700 R.P.M., style No. 126745, serial No. 724400; complete
1—3-in. Worthington turbine, No. 5093, 3-stage, D.C. to Westinghouse 50-H.P. motor, 220 V., 115.2 amp., 3-phase, 60-cycle, 1700 R.P.M. style No. 126743, serial No. 810743; complete
1—2-in. Worthington turbine, No. 4505, 3-stage, D.C. to Westinghouse 30-H.P. motor, style CCL, 220 V., 2-phase, 60-cycle, 1700 R.P.M. style No. 121804, serial No. 801444; complete
1—7½ x 7 x 10 Worthington duplex, No. 115960, 6-in. suction, 4-in. discharge
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4—3-in. Edson diaphragm

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1—40-ton Marion, standard gauge, No. 1534
1—Model O Vulcan revolving traction, No. 1702, with a new ¾-yd. dipper

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1—"Climax" road scraper
1—3-ton "Enterprise" farm roller

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1—5 ton Differential.

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375 ft. 12-in. Standard steel pipe with screw flanges
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1—2-yard Hayward
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30—4-yard Western 36-in. gauge cars
35—1½-yard Western 24-in. gauge cars
20—12-yard Western standard-gauge cars
30—2½-yard 36-in. gauge quarry cars
50—80,000 lb. capacity gondolas
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1—No. 5 Austin
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1—No. 6 Gates "D" crusher
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2—3-drum 8½ x 10, with or without boilers
2—7 x 10 D.C., D.D. hoists
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2—10 x 16—36-in. gauge dinkies, just through shop
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15 x 24 standard gage, saddle tank

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8 x 12 D.C., D.D., Mundy engine and boiler
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3—25-H.P. Lidgerwood D.D., 220 volts, D.C.
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CRUSHER
1—24 x 36 Buchanan

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500 ft. span Lambert **Cableway** with steam hoist and buckets.
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CLAMSHELL: One—¾-yd.
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1—100 " " " " "
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No. C-1115—1—20-ton Orton and Steinbrenner 8-wheel, 2-drum locomotive crane.
No. C-1117—1—30-ton Industrial standard gauge locomotive crane, gooseneck boom.

HOISTING ENGINES

No. C-4101—2—42-in. single drum hoists, direct connected to 40 H.P., 4 cylinder auto. type gas engine.
No. C-1880—3—Stroudsburg double cylinder single friction drum hoisting engines.
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No. C-1105—1—5 x 7 Flory double cylinder single drum hoisting engine.
No. C-1113—1—8½ x 10-in. American double cylinder, triple friction drum hoisting engine, swinging gear.
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No. K-329—1—Clyde 15-ton double drum hoisting engine.

DERRICK

No. C-1255—1—Guy Derrick, 80 ft. diameter, 80 ft. mast, complete with sheave wheels, guy wires and irons.

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No. 1107—3—No. 12 Smith concrete mixers, complete with engine and boilers, capacity 16 cu.ft.

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No. C-1112—1—200-lb. Vulcan Pile drop hammer.
No. C-1110—2—300-lb. Vulcan drop hammers.

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No. C-1122—12—Scoop box rotary steel dump cars, 18-in. gage, 12 cu.ft. capacity.
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No. C-1124—20—2-yd. Western, 2-way wood body dump cars, 30-in. gage.

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No. C-1121—80—1½-yd. Woods Acme bottom dump buckets.
No. C-1117— 2—1½-yd. dump drag line buckets.
No. C-1120—10—6 cu.ft. clam shell buckets.
No. C-1119— 9—12 cu.ft. auto. dump buckets.

VALVES

No. C-940—10,000—2 to 36-in. Gate, Globe, Angle and Foot Valves; never used. Crane, Kelly, Jones and Chapman makes.

CULVERTS

Big stock of double riveted and spiral riveted culvert pipe, 16, 20, 24, 36, 44 in. Any lengths.

PIPE

No. J-5404—100,000 ft. of Abendroth and Root spiral riveted pipe No. 10 gage, steel, 25-ft. lengths, complete with Root bolted joint couplings.
No. J-5405—170—8, 10, 12 and 24-in. cast iron pipe. Bell and Spigot ends.

Write for our current 160-page contractor's equipment, list No. EM-303

Address **HARRIS BROTHERS CO.**, *Owners*
35th and Iron Streets, Chicago, Ill.

Stone Crusher

9 x 15-in. Allis-Chalmers Blake Pattern Jaw Crusher. Excellent condition, practically new, less than three months' use. Price, $300. Available for immediate delivery.

FRANK TOOMEY, Inc.
127-131 N. Third St., Philadelphia, Pa.

HOISTS

25 H.P., S.D. Thomas Electric, 500 V., D. C.
10 H.P., S.D. Reversible, 220 V., 3 P., 60 ~ Electric
7½ H.P., S.D. Reversible, 110-220 V., 1 P., 60 ~ Electric
8 H.P., S.D. Novo Gasoline Reversible

MIXERS, Concrete and Hot

Hot Mixers, with traction, for asphalt, etc.
14½ ft. Smith on trucks, power loader, water tank, gasoline engine, has been used 10 days only.
1 Bag Milwaukee, gasoline, power loader and tank.
20 ft. Milwaukee on skids, batch hopper, with pulley or electric motor

TRAVELING DERRICK

All steel, self-propelling derrick with engine and clamshell. New 1916

STEEL TOWER BOOMS

78 ft., 12-ton capacity, with fittings for tower

BUCKETS and HOPPERS

20-ft. Wylie Concrete Tower Hopper, New
18-ft. Wylie Concrete Tower Hoist Bucket, New
18-ft. Insley Concrete Tower Hoist Bucket
1-yd. Stuebner Controllable Center Dump Tipover Buckets, round and square

660 ft. 1¼ in. 6x19 new wire rope

Used Equipment guaranteed to be in excellent condition. New equipment carried in stock.

ROY C. WHAYNE SUPPLY COMPANY
Louisville, Ky.

Symons Crusher Parts

We have for sale the following parts for No. 36 Symons Disc Crusher:

1 Eccentric Box
1 Shaft and Ball
1 Steel Spider
1 Outer Disc
1 Inner Disc
1 Eccentric Pulley Hub
1 Eccentric Pulley Rim
1 Nut

These parts are brand new, never been used.

All the above in A-1 condition and will be sold at a sacrifice.

THE B. D. PIERCE, Jr., CO.
122 Bank Street, Bridgeport, Conn.

Steam Roller

7-Ton Heisler Tandem

Reflued, Overhauled. First-class operating condition.

United States Equipment Company
210 So. La Salle Street
Chicago

Tandem Roller Bargains

One 6-ton—Almost new.
One 10-ton—Overhauled.

UNIVERSAL ROAD MACHINERY CO.
Kingston, N. Y.

FOR SALE

9x16 and 10x20 **Jaw Crushers** with Elevator, Screen and Portable Bin.
5 and 6 In. Morris D. C. **Steam Pumps.**
Austin, Parsons and Potter **Trench Machines.**
Concrete Mixers, Derricks, Steam Drills, Gasolene Engines, Motors and other Equipment. Let me know what you need.
Thomas J. Lane, 240-241 Bushnell Bldg., Springfield, Ohio

Roller for Sale

10-ton three-wheel roller, cheap.

FS1003—Eng. News-Record

FOR SALE

Steel Spider for Gates 7½-K Crusher
No. 4 Gates "B" **crusher**
Baldwin **locomotive,** 9 x 14 in., 36-in. gage
One Guy **derrick,** mast 70 ft., boom 60 ft., steel bull-wheel
One No. 19 Star Traction **well drill**
One **elevator,** 36-in. buckets, 60 C. to C., new drive gears, 130-ft. long
Landis stationary **engine,** 70 H.P.
Worthington **pump,** 10 x 6 x 10

SUSQUEHANNA STONE COMPANY
Williamsport, Pa.

FOR SALE—Koehring Street

PAVER

Size 14. Just overhauled and in fine shape. Can be seen working now.

H. E. BUNCE, Olean, N. Y.

FOR SALE

8-Ton Kelley-Springfield TANDEM

ROAD ROLLER

Good as new

D. E. SULLIVAN & SON., Columbus, Ohio

FOR SALE—One No. 5 mounted

SYMONS CRUSHER

with elevator, also complete crushing outfit for road building, including boiler and engine, drills, bins, steel, rails, derrick, boxes, centrifugal pump and other small tools. One 25-ton steel **Gallon Unloader,** almost new. Two 7-ton **Sterling Dump Body Trucks.**

C. E. Redington, 127 W. 1st St., Greensburg, Ind

A COMPLETE QUARRY

1—No. 7½ Austin **Rock Crusher** (cost about $6000)

1—No. 3 Austin **Rock Crusher**

1—20-ft. **Revolving Screen,** 40-in. diameter

1—65-ft. **Elevator,** complete with belt and buckets

6—Patent **Ore Gates**

1—80-H.P. Fairbanks-Morse **Oil Engine**

1—50-H.P. Fairbanks-Morse **Oil Engine**

1—30-H.P. **Oil Engine**

1—25 H.P. **Oil Engine**

1—Gardner **Air Compressor**

Several Big **Air Drills**

5—Herzog Hand **Air Drills**

Quantity **Wire Rope** and **Cable**

Quantity **Tool Steel**

Quantity **Hand Tools** for 75 men, including sledges, forks, picks, etc.

1—Complete **Blacksmith's Shop** and **Outfit**

Galvanized Water and Oil **Tanks**

1—Fairbanks-Morse Engine Driven **Water Pump**

500 ft. various lengths galvanized and black **Iron Pipe,** assorted sizes

Boarding House and **Kitchen Equipment** for crew of 75 men

40—**Trucks,** 2-in. axles, roller bearing, for quarry cars.

For further particulars

POWER EQUIPMENT CO.

501 Fifth Avenue **New York, N. Y.**

Contractors' Equipment—Quarry and Stone Cutting Equipment

Second Hand ***For Immediate Delivery***

Hoisting Engines, Boilers, Derricks, Pumps, Concrete Mixers and Trough, Hoisting Crabs, Feed Water Heaters, Riveting Hammers, Air Compressors and Receivers, Plug Drills, Steel Drilling Machines, Pneumatic Stone Carvers' Tools, Motors and Blacksmiths' Tools.

JAMES STEWART & CO., INC., BOX 797 **Oklahoma City, Okla.**

FOR SALE

1—**White Truck,** 5-ton capacity, iron wheels, self-dump.
1—J. I. Case **Steam Tractor,** engine and boiler, 50 H.P.
1—J. I. Case **GasTractor,** 20 H.P.
1—Fairbanks **Scale.**
1—Ingersoll-Rand **Steam Drill**
4—Eagle **Dump Wagons.**
4—2-wheeled **Scrapers.**

CHARLES P. RYAN, *Receiver*
Third National Bank Bldg., Syracuse, N. Y.

Crusher Plant

No. 7½ Austin Crusher.
No. 5 Austin Crusher.
Austin Elevator—26 in. wide, 67 ft. 6 in. shaft centers.
Austin Screen—48 in. x 16 ft.
The building, shafting, pulleys, belting, etc., complete including erecting diagram.
1000 tons daily capacity.

HACKLEY MORRISON, Richmond, Va.

FOR SALE—Used 2 months.
No. 3 Foote continuous **Mixer** on wheels, with traction.
Scarifier—Strain and Sanford, double sets diamond steel picks.
300 gallon Tar **Kettle** with superheater, on wheels.
Monarch 10-ton **Steam Roller.**

W. J. COUGHLIN
665 Newark Ave., Jersey City, N. J.

FOR SALE—One 1916, ½-yard tilting

AUSTIN CUBE MIXER

with side loader, automatic water tank, gasoline power. Has been used on only 500 yards of concrete. **Price $900.**

FS98 (Ill.)—Eng. News-Record, Chicago.

MIXER

FOR SALE

Koehring No. 16—Best Condition—Immediate Delivery.

Price $2000.

Harrison Engineering & Construction Corp.
301 Morgan Bldg., Buffalo, N. Y.

SEARCHLIGHT SECTION

Second Hand Equipment

Electric Hoist

FOR SALE

Lidgerwood 40 H.P. Double Drum, Size No. 519 Hoist, direct connected to a 40 H P. General Electric 58 Motor, Direct Current, 220 Volt. Controller, etc., complete. Drums tandem, 16 in. diam., 24 in. face. Used only few months on one job. Excellent condition. Immediate Chicago shipment.

WILLIS SHAW
239 Railway Exchange Bldg., Chicago, Ill.

IMMEDIATE DELIVERY

Machinery for Moving Materials

DERRICKS
4—Stiffleg 35-ft. Mast, 60-ft. Boom.
1—Stiffleg 36-ft. Mast, 75-ft. Boom.
3—Guy 65-ft. Mast, 60-ft. Boom.
1—Steel Stiffleg, 80-ft. boom on std. gage trucks, 50-75-ton capacity.
5—Sets Stiffleg Derrick Fittings, 50 tons capacity.

DERRICK CARS
1—36-ft. Std. Gage Car, 14-ft. Boom, 40-ft. Mast with 1 yd. Clam Shell Bucket.

DUMP CARS
35—Western 4 yd. Capacity, 36-in. Gage.
15—Double Truck Center Dump, 36-in. Gage.

LOCOMOTIVES
4—10 x 16 in. Vulcan and Porter 36-in. Gage.
2— 9 x 14 in. Porter 36-in. Gage.
1— 8 x 10 in. Baldwin, 36-in. Gage.

PILE DRIVERS
1—55 x 28 ft., 75-ft. Leads.
1—50 x 26 ft., 85-ft. Leads.

HOISTING ENGINES
1—10 x 12 in. D.C., D.D., with Boiler.
3— 7 x 10 in. Lidgerwood D.D., D.C., swinging gear.
1—3-drum Electric.
4—8½ x 10 Lidgerwood D.D., D.C.

LOCOMOTIVE CRANES
1—15-ton Industrial 40 ft. Boom
1—30-ton Industrial 30 ft. Boom
1—17-ton. Industrial 45 ft. Boom.

STANDARD GAGE LOCOMOTIVES
1—40-ton saddle tank Baldwin
1—35-ton, 2-4-2 Porter saddle tank

STEAM SHOVELS
1—No. 1 Thew
1—70-ton Bucyrus

TRAVELING DERRICKS
2—60-ft. Boom, 30-ft. Mast.
1—35-ft. Boom, 15-ft. Mast.
1—45-ft. Boom, 25-ft. Mast.

HOISTING MACHINERY CO., 50 Church Street, NEW YORK, N. Y.

HOISTS

Compressors - Boilers - Mixers
Derricks - Cableways
For Sale or Lease
HOISTING ENGINE SALES CO.
Grand Central Station, New York

FOR SALE

4—HOISTERS
1—Ten-ton DERRICK
3—MIXERS
1—Floating PILE DRIVER
1—SHEET HAMMER

LEWTER F. HOBBS, Norfolk, Va.

MUNDY HOISTS FOR SALE

One 9 x 10 D.D., D.C., Mundy hoist with boiler, complete with geared swinger attached. New 1916. Used thirty days. Guaranteed as new. Bargain for quick sale. One 6½ x 12 D.D., D.C., Mundy hoist, completely overhauled. Condition first-class.

L. G. Everist, Inc., Sioux City, Iowa.

Steam Hoist

One Lidgerwood **Steam Hoist**, Double Drum, 7 x 10, with butt riveted boiler of especially sound design, passing inspection in any state in the Union.

Steel Derrick

One 20-ton stiff-leg all **Steel Derrick**, boom 100 ft. to 75 ft., no bull wheel; an exceptionally well-built derrick, used by us on one job only.

Air Compressor

One Clayton Steam **Air Compressor**, capacity 150 cubic feet.

INTERNATIONAL STEEL ERECTION CO.
Waukesha, Wisconsin.

PLANT FOR SALE

1—Ingersoll-Rand Imperial Type No. 10 **Compressor**, 1200 cu.ft.
1—Lidgerwood D.D., D.C. 8½ x 10 steam **Hoisting Engine**, complete
1—Stroudsburg D.D., D.C. 8½ x 10 steam **Hoisting Engine**, complete
1—Flourty 75 H.P. 3 drum A.C. **Hoist** electric, complete.
1—Ames No. 10 Locomotive Type **Steam Boiler**
1—Single drum **Electric Hoist**
1—Stiff leg **Derrick**, complete
1—**Guy Derrick** with guys, bull wheel, complete
2—**Concrete Mixers**, capacity 9 cu.ft.
2—**Air Receivers**, 5 ft. 0 in. x 14 ft. 0 in.
10—**Cameron Pumps** 7—Centrifugal Pumps
3—Ransome **Grout Machines**
3—**Locomotive Motors** 2—Turntables
Flat Cars, Dump Cars
Drills, Batteries, Pipe Cutting Machines. Also other plant used in big tunnel contract.

HANS R. JACOBSEN, Consulting Engineer
132 Nassau Street, New York City

FOR SALE

A Fine Line of Rebuilt

Concrete Mixers
Hoisting Engines
Derricks

and Other

Contractors' Equipment

For Immediate Delivery

We Buy and Sell

CHICAGO BUILDERS SPECIALTIES CO.
11 So. LaSalle St., CHICAGO, ILL.

PLANT FOR SALE

1—Electric Driven **Concrete Mixer**
1—Steam **Concrete Mixer**
1—Five-ton Stiff Leg **Derrick**
1—Ten-ton Stiff Leg **Derrick**
Steam Hoists, no boilers, steam and electric pumps.
1—1200 cu.ft. capacity Electric Driven **Compressor**, D.C. Motor
Stuebner **Buckets**
D.C. Motors from 5 to 50 H.P.

U. S. REALTY & IMPROVEMENT CO.
949 Broadway, New York City
Phone, 1770 Gramercy

FOR SALE

Electric Cableway

Five (5) Ton, 700-ft. span Lidgerwood, self-contained Electric Cableway Hoist.

Belt Conveyor

One (1) Belt Conveyor outfit and charging apparatus, including 395-ft., 18-in. conveyor belt, etc.

East Creek Electric Light & Power Co.
St. Johnsville, N. Y.

Immediate Delivery

Contractors' Accessories
Locomotive Cranes

2—15-ton Brownings—one with Bucket
1—15-ton McMyler
1—20-ton Ohio
1—30-ton Industrial
Stiff Leg Derrick, 76-ft. Oregon Pine Boom.
Derrick Lighter 77-ft. Boom. Deck capacity 250 tons.
Air Compressors, Motors, Boilers, Hoists, etc.

Send us list of your plant for sale.

FRANK T. CRAVEN COMPANY
Hudson Terminal, Suite 1957-1959
50 Church Street, New York

FOR SALE

30 Contractors' **Dump Wagons**, 1½ yd., 4-wheel
Also a number of dump **Carts** and harness
Derricks, traveling, stiff-leg and guy
Steam shovels, locomotives, cars and rail.

DALLETT & COMPANY
413 Harrison Bldg., Philadelphia, Pa.

FOR SALE

2—Guy **Derricks**, 16 in. x 88 ft.
125 H.P. **Boiler**, H.R.T. 125 lb,
10 steel **Skips**, 4-yd. capacity.
17—**Cars**, 24-in. gage, Rotary Dump.
9—Tip **Buckets**, ¾-yd.

Chas. F. Avery, 45 Broadway, N. Y. City.

We OWN and offer FOR SALE
5-ton, 4-wheel

BROWN HOIST LOCOMOTIVE CRANE

equipped for handling bucket, standard gauge, 30 ft. boom. In good working order; for immediate delivery.

DALLETT & COMPANY
413 Harrison Bldg., Philadelphia, Pa.

SEARCHLIGHT SECTION

Second Hand Equipment

LOCOMOTIVE CRANE

35-ton McMyler Interstate, 70 ft. Boom

operates Clam Shell or Dragline Bucket, 8 wheel truck, standard gage.

Immediate shipment

Concrete Mixers

10 ft. Smith with loader, steam power, on trucks
16½ ft. Smith with loader, steam power, on trucks
16½ ft. Smith, engine, no boiler, on skids
22 ft. Smith with engine, no boiler
10 ft. Ransome Bantam
10 ft. Ideal Cincinnatus Street Paver with gasolene engine

Derricks

All Steel Stiff Leg, 110 ft. boom
52 ft. 12 in. x 12 in. Wood Beam Stiff Leg
48 ft. 12 in. x 12 in. Wood Boom Guy
also several smaller sizes

Hoisting Engines

6½ x 10 DC DD McKewon with boiler
7½ x 10 DC DD Mundy, no boiler
8 x 12 DC D Flory with boiler
8½ x 12 DC DD Lidgerwood with boiler
5½ x 7 DC DD Byers link reversing
35 HP. Thomas DD 220 V., 3 Ph. AC.
50 HP. Thomas DD 220 V. DC.

Pumps

Morris 6 in. Discharge 6 in. x 8 in. Engine
Erie 6 in. Discharge 6 in. x 8 in. Engine
(2) No. 7 Pulsometers 4 in. Discharge
(1) No. 3 Pulsometer 2 in. Discharge

Miscellaneous

11 ton Kelly Macadam Roller
30 HP. Ohio Oil Tractor and Roller
No. 1 Aurora Jaw Crusher, 9 x 16
32 ft. Jeffrey Stone Elevator
1 yd. Williams Clam Shell Bucket
¾ yd. Insley Controllable Bottom Dump Bucket
60 ft. Alvey Ferguson Roller Conveyor
(2) 1½ yard 24 in. gauge Koppel Cars

Steam Shovels

Model 20 Marion 1¼
Model 60 Marion 2½
Model "O" Thew ¾ yd.
Also
Model 70 Bucyrus, (2) 9 x 14 Vulcan Dinkies, (1) 10 x 16 Vulcan, (30) 4-yd. Oliver Cars with steel underframes. Sullivan Drill and Blacksmith Outfit on which will name a very low price for the whole outfit or sell separately.

THE EQUITY EQUIPMENT CO., 1434-36-38 Main St., Cincinnati, O.

LOCOMOTIVES

2—9 x 14 Vulcan 36 in. gauge Dinkeys
1—9 x 14 Porter 36 in. gauge Dinkey
2—10 x 14 Standard gauge Davenports

LOCOMOTIVE CRANES

1—15-ton McMyler Crane, 40 ft. boom
1—25-ton Industrial Crane, single drum, 80 ft. boom

STEAM SHOVELS

1—¾-yard Type B Erie Shovel
1—70-C Bucyrus Shovel

H. KLEINHANS COMPANY
Union Arcade, Pittsburgh, Pa.

DRAGLINE BUCYRUS
1—175-B Electric, 125-ft. boom; good as new

STEAM SHOVEL
1—Marion Model 76, Special No. 2777; nearly 50% greater working radius and height than Standard 76.

CHANNELERS
3—Sullivan Duplex with excellent boilers and steels, Fjab.

J. O. Heyworth, Harvester Building, **Chicago**

Locomotive Crane

1—10-ton 4-wheel Industrial, overhauled, new boom. Immediate shipment.

Steam Shovel

1—Bucyrus 1½-yd. dipper on railroad trucks—good condition.

Herbert Givin Co.
30 Church Street, New York, N. Y.

LOCOMOTIVE CRANES

1—Brownhoist, approx. 15 T. cap., 4 W., 40-ft. b., d.d., immed. del. N. Y. State.
1—Brownhoist, approx. 12 T. cap., 4 W., 35-ft. b., 54-in. boiler, d.d., immed. del. Middle West.

TITAN EQUIPMENT COMPANY
30 Church St., New York, N. Y.
Tel. 1111 Cort.

CABLEWAY EQUIPMENT

4-drum hoist arranged for motor drive, with all fittings suitable handling 8 tons at 550-ft. span, including automatic dumping device—immediate delivery.

H. P. Brearley - 90 West St., New York

Locomotive Cranes

6—Brand new, 30 ft. boom, ¾ yd. C. S. Bucket, 4 wheel, standard gauge, Ohio boiler, outriggers, rail clamps, cut steel gears.
1—McMyler-Interstate, 10 ton, 4 wheel, 40 ft. boom, 1 yd. bucket.
1—McMyler, 40 ft. boom, 8 wheel, MCB., 1¼ C.S. Bucket.

Immediate shipment.

MOORE BROS.
30 So. LaSalle Street, Chicago, Ill.

LOCOMOTIVE CRANES

Ready for Immediate Shipment

4—10-12-ton capacity Orton and Steinbrenner, brand new, 8-wheel, M.C.B., equipped for clam shell or fall block and hook work, in original manufacturers packages, boxed for export, located in New York City.

F. MAYER, 1601 Monadnock Building, Chicago, Illinois

CRANES

IMMEDIATE SHIPMENT

1—20-ton O & S, 8-wheel M.C.B., 50-ft. boom, 1½-yd. clam-shell, first-class condition.
1—20-ton O & S, on 14-ft. gage truck, 50-ft. boom, 1½-yd. clam-shell, first-class condition, Chicago.
3—McMyler Locomotive Cranes on 14-ft. gage trucks, 60-ft. boom, first-class condition, Chicago.

Wire if interested—

Machinery Warehouse & Sales Co.
Successors to G. C. Marsh & Co.
740 Old Colony Bldg., Chicago

SEARCHLIGHT SECTION

Second Hand Equipment

FOR SALE

1 No. 2 Vulcan Steam Hammer

A Bargain For Cash.

Contractors Material Co.
Des Moines, Ia.

CHAIN SLINGS

SUITABLE FOR

Bridge Builders, Contractors, Quarries, Etc.

We offer 166 chain slings, sizes ½, ¾, ⅞, 1, 1¼, 1½, 1¾, 1½ and 1¾ in. Lengths from 6 to 20-0 ft. with egg link hooks and rings. These chains are practically as good as new, have been annealed and tested. We hold certificates showing the breaking strain and proof strain under which chain was tested. Chains are perfect in every detail, each chain having been tested separately. Chains are made of high-grade selected iron and are made of 3-B sling chain. Immediate delivery. Prices on Application.

MARINE METAL & SUPPLY CO.
167 South Street, New York City

Contractors — Engineers

We have in stock for immediate delivery

150 9-in. Beams 8 ft. to 19 ft. long.
100 12-in. Beams 5 ft. to 19 ft. long.
750 15-in. Beams 8 ft. to 20 ft. long.
150 20-in. Beams 8 ft. to 20 ft. lang.

All material in fine condition. Inspection invited.

The Perry Buxton Doane Co.
Chelsea, Mass.

FOR SALE

About 4500 Poles

Long Leaf Yellow Pine, creosoted by standard method with 12 lb. per cu.ft. The poles are straight, specially selected and finest class, 35 to 36 ft. long and 14 to 11¾ in. diameter 5 ft. from butt. Poles were inspected, accepted and purchased for a neutral country power line but shipping conditions prevent moving. Now stored at Mobile. Inspection can be arranged.

Further particulars obtainable from

THE PYRITE COMPANY, LTD.
15 William Street, New York, N. Y.

STEEL PILING, BUCKETS, ETC.

400 pcs. Lackawanna arch webb 14 x ½ in. x 17 ft.
1 Sprague No. 7 electric grab bucket hoist
2 Hayward ½-yd. clamshell buckets
1 Hayward ½-yd. orange peel bucket
2 McKiernan-Terry No. 5 hammers

Immediate delivery. *Condition guaranteed.*

Gibbons & Reed Co., Salt Lake City, Utah.

BUCKETS FOR SALE

½-yd. Mead-Morrison Clam Shell
½-yd. McMyler Clam Shell
1-yd. Williams Favorite Clam Shell
1, 1½, 1¼ Class "E" Hayward Clam Shell
¾ and 1-yd. Hayward Orange Peels
1-yd. Acme Bottom Dump Tub

John H. Carlin Machine Company
North Side, Pittsburgh, Pa.

BRIDGES

Highway drawbridge for sale, for delivery in spring of 1916. Through span 176-ft. swing bridge, center support, 20-ft. clear roadway, with one 4-ft. sidewalk; steel trusses and floor beams with wooden stringers and floor plank; designed to carry one 40-ton car on one span; electric operation; built in spring of 1915.

For further information apply to

Holbrook, Cabot & Rollins Corpn.
6 Beacon St., Boston, Mass.

FOR SALE OR RENT

1-Thew "O" ⅝-yd dipper at Marion, O.

1-Thew "A1" ⅞-yd dipper Shop No. 821

Good as new, at Flint, Mich.

The Cleveland & Erie Machinery Co.
Cleveland, O.

Steam Shovels

FOR SALE

1—⅝-yd. Thew—nearly new.
1—1¼-yd. Thew. Standard gage. In good order. Low price.
1—1¼-yd. Marion. Extra fine order. Traction and standard gage trucks.
1—¾-yd. Marion-Osgood.
2—Keystone Excavators. One new.

KNAPP MACHINERY SUPPLY CO.
120 Liberty Street, N. Y. City

FOR SALE

For immediate delivery

Steel Building

practically new 92 x 118 ft. Price and B-P on application.

Henry A. Hitner's Sons Co.
Station K, Philadelphia, Pa.

Clam-Shell Buckets

FOR SALE FOR RENT

New and Rebuilt

½ & ¾ yd., $2.00 per day
1 & 1½ yd., $2.75 per day

Send for catalog

George Haiss Mfg. Co.
140th St. and Rider Ave. New York City

Overhauled since last used

Thew A-1

Steam Shovel

10x16 Baldwin, 36 in. gage

Locomotive

JAS. S. BRADEN
26 Cortlandt Street, New York City

BUCKETS

One 3-yard Orange Peel. One ½-yard clamshell.

STEEL STACK

60 in. x 110 ft., like new.

18 x 42 **Wetherill Corliss Engine, Boilers, Tanks, Pipe, etc.**

M. J. Hunt, 1316 Beach St. Philadelphia, Pa.

Type "O" Thew Shovel

For Sale or Rent

Location central New York, can furnish crew, available at once.

FS47 (N. Y.)—Eng. News-Record.

FOR SALE

1—70-Q

BUCYRUS SHOVEL

in first-class shape.

S. L. STARK COMPANY
1st Nat'l Bank Bldg., Pittsburgh, Pa.

FOR SALE

1—65-ton Bucyrus **Steam Shovel**
1—55-ton Bucyrus **Steam Shovel**
1—No. 3 Austin **Trenching Machine**

Splendid condition at sacrifice prices.

Western Machinery & Equipment Co.
S. 5 Stevens Street, Spokane, Wash.

FOR SALE—65 ton

STEAM SHOVEL

2½ yd. dipper. Ready for operation.

C. F. MEAD
708 Euclid Ave. Cleveland, Ohio

SEARCHLIGHT SECTION

Second Hand Equipment

Tanks For Sale

2—8 x 20-ft. cylindrical storage tanks
1—3 x 17-ft. cylindrical storage tank
1—10 x 35-ft. open tank Bell Bottom
1—10 x 45-ft. open tank Bell Bottom
1—8 x 12-ft. upright pressure tank
1—6 x 12-ft. long upright tank
1—6-ft. 6-in. x 26-ft. 6-in. pressure tank

SAMUEL J. JEFFERIES CO.
1914 Freeman Ave., Cincinnati, Ohio

Hollow Drill Steel For Sale

4 tons 1¼-in. Round, 4 tons 1¼-in. Hexagon Jakos Swedish Bars for immediate shipment from our New York warehouse.

HAMILTON & HANSELL
17 Battery Place, New York City

STEEL BUILDINGS

24-ft. 6 in. span, 91 ft. 6 in. long, ell-shaped, covered sides, good galvanized iron.

40 ft. clear span, leanto truss, 70 ft. long, covered sides and roof, good galvanized iron.

Immediate inspection and shipment

THE C. B. KIMBERLY CO.
Wheeling, W. Va.

STEEL PILING SECOND-HAND

Wemlinger, 12 in. x ⅛ in. and 7/16 in.

200 pcs. 4 ft. long	207 pcs. 12 ft. long
70 pcs. 6 ft. long	100 pcs. 14 ft. long
250 pcs. 8 ft. long	750 pcs. 20 ft. long
100 pcs. 10 ft. long	300 pcs. 24 ft. long

United States, 6 in. and 9 in. x ¼ in.

170 pcs. 14 ft. long	100 pcs. 22 ft. long

United States, 12¼ in. x ⅜ in.

125 pcs. 14 ft. long	320 pcs. 18 ft. long
50 pcs. 15 ft. long	250 pcs. 20 ft. long
60 pcs. 17 ft. long	115 pcs. 25 ft. long

Lackawanna, 7 in. x ¼ in.

38 pcs. 8 ft. long	180 pcs. 14 ft. long
165 pcs. 10 ft. long	78 pcs. 22 ft. long

Lackawanna, 12¾ in. and 14 in. x ⅜ in.

175 pcs. 16 ft. long	150 pcs. 25 ft. long
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50 pcs. 20 ft. long	164 pcs. 40 ft. long
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Steel Truss Building 55 x 100, with 3-ton Crane. Whiting No. 4—35 ft. Cupola, Blower, 36 x 60 and 24 x 36 Tumbler, Elevator, V-body dump car, two 2-ton Yard Trucks, two 1-ton Truck Ladles, Core Oven and car, Industrial track, Moulders equipment and tools.

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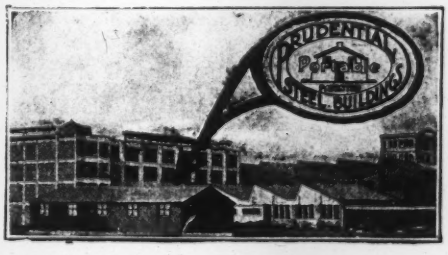

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10,000 tons of first-class Relaying Rails, suitable for export.

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Available for prompt shipment.

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We have a complete line of high-grade equipment, including—

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1—58 ft.—250,000 Capacity—Flat
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Narrow and Standard Gage for every service, rebuilt, immediate delivery.

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16,000 tons—with Angle Bars to match.
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For we consider it our duty as well as good business to wake the **"DEAD ONES"** to the importance of this Remarkable Freight Elevator for the Mill Owner who has steam available.

ABSOLUTE PERFECTION in freight elevators is a surprising and bold claim.

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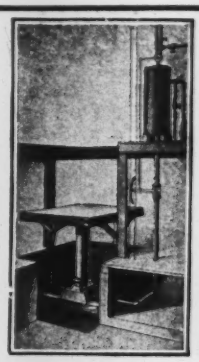

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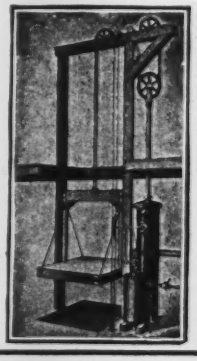

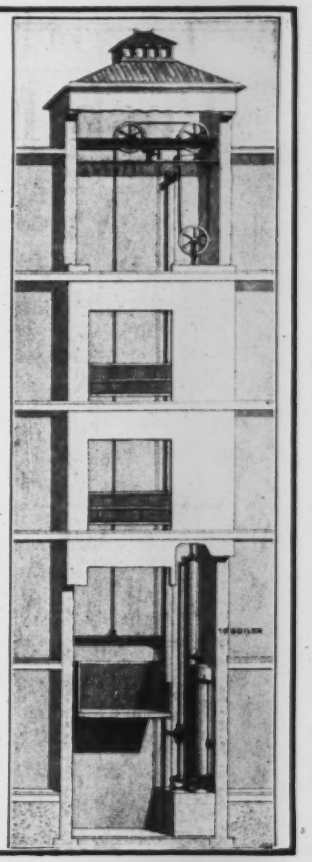

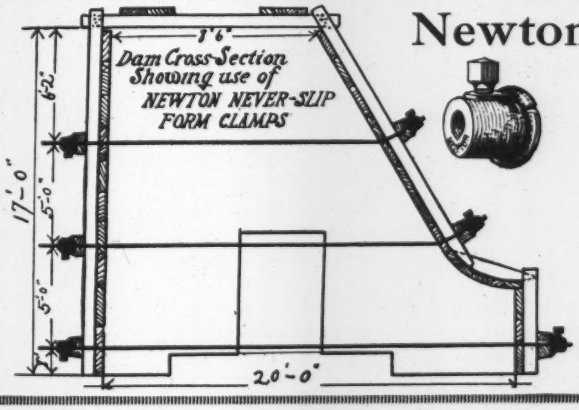

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Make form work cost less

Quickly adjustable and when once set they can't let go until set screw is released. Can be used over and over indefinitely.

One ordinary laborer putting on Newton Never-Slip Clamps can do the work formerly requiring two form carpenters.

Newton Improved Clamps stand the strain because they're *made* right. Every one is tested separately to insure ease in operation. The set screws are the best obtainable.

The V-shaped hole enables each Newton Clamp to fit rods of various sizes. We will furnish sketches showing how Newton Clamps may be used on your job.

Send for free samples.

The Newton Rod Puller removes rods without a bit of jar—saves the rods.

The Newton Tightener Wrench applies the nut and screw principle to threadless rods.

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In order to show you proofs, copy should be in our hands 3 *weeks before date of issue.*

When it is **not** necessary for you to see proofs, copy should reach us 8 *days before date of issue.*

Push Business—Avoid Hysterics

WE never do things by halves. The President's ringing declaration against German aggression has met with a country-wide response. But we are in danger of going too far, of becoming hysterical. In our enthusiasm to do all we can to help win the war, we may be prompted to practice economies that would hurt rather than help.

Howard E. Coffin of the Council of National Defense who, perhaps more than any other American, is in a position to see the trend in industrial affairs sounds the note of warning.

It is repeated here because it is the belief of ENGINEERING NEWS-RECORD that every engineer and contractor should read *and heed*.

Mr. Coffin's Statement:

"After nearly three years of refusal to take the European war and its lesson seriously, we have suddenly launched forth in a most feverish activity to save the country over night," he said to-day. "Patriotic organizations, almost without number, are milling around noisily, and while intentions are good the results are often far from practical.

"Because of an impending and possible shortage of foodstuffs we have hysterical demands for economy in every line of human endeavor. **Waste is bad, but an undiscriminating economy is worse.**

"Some states and municipalities are stopping road building and other public works. General business is being slowed down because of the emotional response of the trading public to these misguided campaigns for economy; savings are being withdrawn from the banks; reports show that some people have begun to hoard food supplies and thousands of workers are being thrown needlessly out of employment. All this is wrong.

"Unemployment and closed factories brought about through fitful and ill-advised campaigns for public and private economy will prove a veritable foundation of quicksand for the serious work we have at hand.

KEYNOTE OF MESSAGE

"It is true that the President has said that this is a time to correct our habits of wastefulness," he said. "Certainly, but the keynote of his message to the people was this paragraph:

" 'It is evident to every thinking man that our industries on the farm, in the shipyards, in the mines, in the factories, must be made more prolific and more efficient.'

"We need prosperity in war time even more than when we are at peace. Business depressions are always bad, but doubly so when we have a fight on our hands. The declaration of war can have no real evil effect on business. What bad effects are apparent are purely psychological, and largely of our own foolish making. For our markets are the same in April that they were in March. We need more business, not less. There is real danger in hysteria. **Indiscriminate economy will be ruinous. Now is the time to open the throttle.**

"Every day the advisory commission of the Council of National Defense receives offers of service from business firms and individuals, with requests for immediate information as to how this service may best be rendered. Now and then great dissatisfaction with the governmental departments is expressed because instant advantage is not taken of such offers. Many firms are hestitating to close ordinary business contracts because of a desire to hold capacity open to meet possibly early government need.

"This spirit and this willingness to meet sacrifice, and even financial loss, in the government service is a most encouraging tribute to American patriotism. But we must remember that in the great struggle in which we have now become a part there is much to consider besides munitions, troops and battleships.

FEW CAN BE HEROES

"Few of us can serve in any heroic role, or even in the supply of munitions to the military arms of the service. It seems to me, therefore, that a plain statement of general policy is most desirable.

"Upon the industrial side of the war three great problems—or perhaps I should better say tasks—confront us.

"First and foremost, we must facilitate the flow of raw materials and finished products to our allies, and must provide the means of rail and water transportation therefor.

"Second, we must meet our own great military and naval building schedules.

"Third, we must plan to do all this with the least possible disarrangement to our own vast commercial and industrial machines.

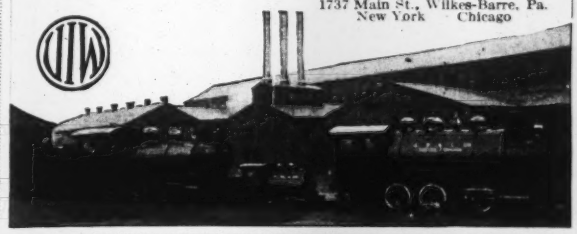
"Through it all we must keep a close eye upon the possible conditions of peace following the present war. We must insure the business success and general prosperity of the country during the war, if we are to hold our present strong place among nations in the commercial competition of the future.

"Patriotic service does not of necessity mean the making of shells or the carrying of a musket over the shoulder. This would soon become a sorry sort of country if it did. There is no doubt of the willingness of any manufacturing plant or individual to serve should the call come. But until the call does come it is best to stick on the job. Let us make 'better business' our watchword and keep our factory fires burning."

AFTER more than forty years, since their original purchase, some of the first customers are still buying

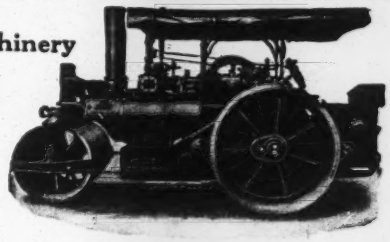
VULCAN LOCOMOTIVES

VULCAN IRON WORKS
1737 Main St., Wilkes-Barre, Pa.
New York Chicago



Quality Machinery

Buffalo Pitts Rollers



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THE BUFFALO-SPRINGFIELD ROLLER COMPANY
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Haul ⅓ More
Load your wagon with
Rapid Loaders
and keep the teams moving. Circular has all details—write for it now.
The Bonney Supply Co., Inc.
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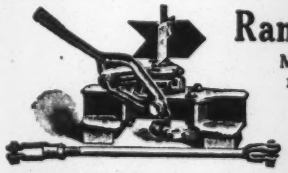
Contractors Cars

We build all styles of industrial cars, made of steel or steel and wood. Our 56-page illustrated catalog will give you some idea of the quality and extent of our line.

Ask for Catalog 706.

Easton Car & Construction Company
New Street, Easton, Pa.



Ramapo Iron Works
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Switch Stands, Plantation Cars, Switches, Frogs, Etc.

INDUSTRIAL CARS

YOUNGSTOWN STEEL CAR CO.
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A new book by **F. Lavis**, Mem. Am. Soc. C. E., Am. R. Eng. Assoc., Special Lecturer on Railway Engineering, Yale University. 608 *pages*, 6 *x* 9, 99 *illustrations*, ***$5.00 net, postpaid.***

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It provides facts upon which estimates of quantities and costs may be based, and it is a direct aid in solving the problems of location, structure, equipment, and traffic.

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44 *pages*, 6x9, 10 *folding maps and charts*, **$1.00 net, postpaid.** Gives detailed instructions for the conduct of field work.

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These two books give modern practice in design, construction and maintenance of passenger and freight terminals, and operation of traffic.

Both are of value to every railroad official.

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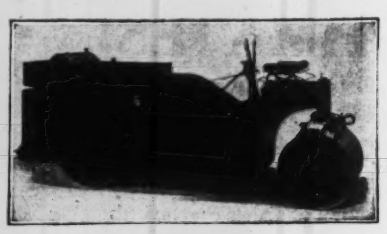


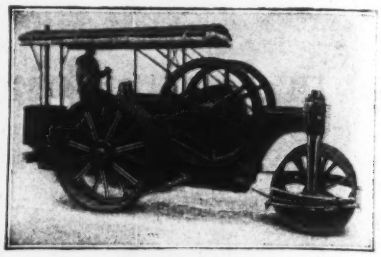
Tandem Roller

THE first to successfully introduce the internal combustion engine and the ability to do most work at least expense has made the Austin Motor Road Roller the standard in efficiency and economy.

Dispensing with the danger and annoyance of the smoke and fire of a steam roller, eliminating expensive hauling of coal and water, ease of control, and the ability to operate on either gasoline or kerosene are among the reasons for this superiority.

THE AUSTIN-WESTERN ROAD MACHINERY CO.
Chicago

Branch Offices—New York City, Columbus, O., Philadelphia, Atlanta, Dallas, San Francisco, Los Angeles, St. Paul.



Three Wheel Roller

Built in five three-wheel and four tandem sizes to meet every requirement. Write for complete catalog.

Greatest Experience is Embodied in the Construction of These Dump Wagons

The experience of nearly half a century in building earth moving machinery of practically every description is behind the Austin lines of dump wagons.

Longest use by most of the big contractors has demonstrated their efficiency, reliability and economy.

Austin dump wagons are characterized by their rugged, practically unbreakable construction. Steel channels filled with wood compose the side frames. The bottom boards are attached by chains which permit them to oscilate freely and prevent binding when dumping.

The top edges of the doors are strapped with iron making them sand tight.

Austin stone spreader wagons are indispensable in the construction of macadam roads. They spread to the full width of the rear wheels and the distribution of the stone is under perfect control of the driver from his seat.

Built in sizes for every contractor and municipal requirement.

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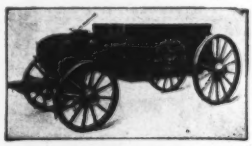
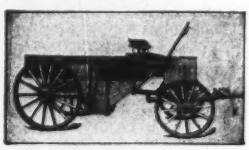
NEW YORK OFFICE: 50 Church Street
***We Manufacture*—Road and Elevating Graders, Scarifiers, Road Rollers, Quarry Cars, Dump Wagons, Stone Spreaders and Street Cleaning Machinery**



Austin Dump Wagon



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Time it!

The holding of a stop-watch on its various operations demonstrates strikingly the time-saving features of the

G-W Wagon Loader

For instance: In 10 seconds the machine can be completely lowered — ready for placing under a shed as low as seven feet if necessary.

Ask us about the other features, today.

Gifford-Wood Co.
Works: Hudson, N. Y.

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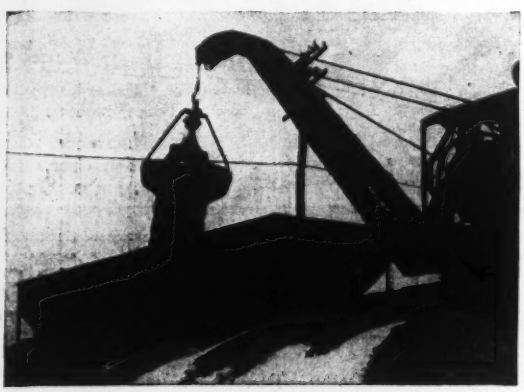
HAISS "High Power" BUCKET

digging iron ore at Berkshire Iron Works, Sheridan, Pennsylvania.

They say: "It is the best bucket that we know of. We have an ordinary clam-shell bucket made by another concern that we were unable to use at all."

If you want a bucket that will dig, write for catalog No. 614 NOW.

GEORGE HAISS MFG. CO., Inc.
140th St. and Rider Ave. New York



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The Ideal Method of Providing for Expansion in Improved Pavements

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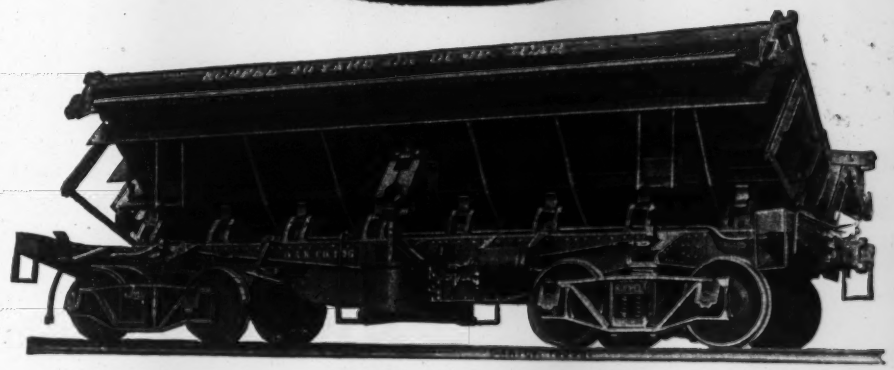

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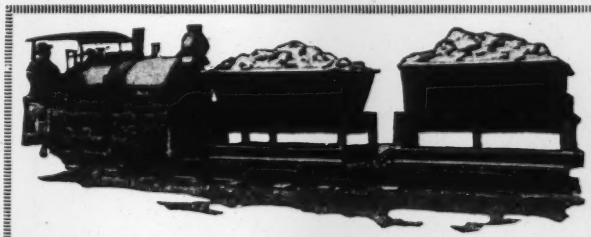

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They have been used on all gigantic earth-moving enterprises on the American Continent. The same reasons that make them economical on big work make them economical on smaller projects.

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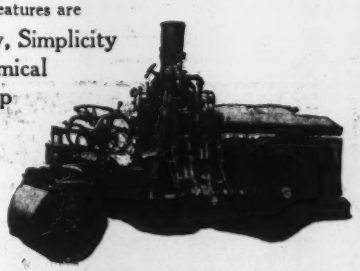

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Reliable
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Elastite EXPANSION JOINT

The original and only Elastite Joint

Comes to the job ready for use. No joints to pour. No spacing strips to remove.
Used in National and Dixie Highways.
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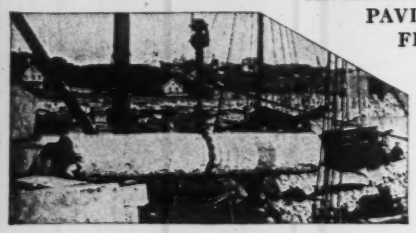
Shipped from Quarry to Job direct by water, for ARCHITECTURAL USE, PAVING, WATER-FRONT, etc.



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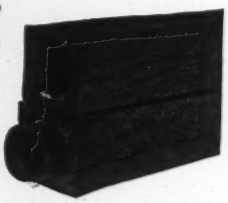
Never Buckle or Decay

Creosoted Conduit



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Creosoted cross arms, Lumber, Paving Blocks, Piles, Poles and Ties.
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WE CREOSOTE railroad ties, piles, poles and wood paving blocks in any quantity at our NEWARK, N. J., plant. We can make deliveries at the buyer's convenience, as we keep a large stock of untreated material on hand. Our prices will satisfy you. American Creosoting Company, 17 Battery Place, New York.

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Simple methods—known costs—explained in new special circular—get it. Avenarius Carbolineum prevents decay of wood. Doubles life of timber. Costs 1/2 to 2c. per sq. ft.—$5 to $12 per 1,000 ft. B. M. Applied by brush, spray or open tank. 40 years' continuous service. Depots everywhere.

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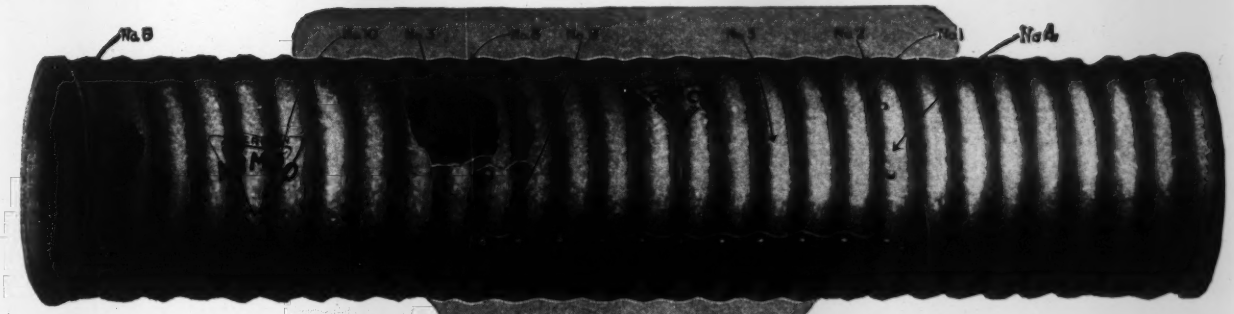

TEN REASONS WHY "ARMCO" IRON CULVERTS

1 **Solid Construction.** In the manufacture of "Armco" Iron Culverts the seams are *tightly* and *evenly* cinched. Before riveting sufficient power is applied to secure the ideal of closeness in each and every joint.

2 **Rivets are ample in size and number.** They are closely spaced and properly driven. They are made from the same metal as the pipe. Compare the riveting of "Armco" Iron pipe with that of ordinary material.

3 **The rivets are always properly upset**—never crushed between the plates. The inside of the pipe as well as the outside will bear the closest inspection.

4 **The pipe is straight and even.** The joints are not to be loosened by bending or swaying. Try the experiment of lifting one end of a sixteen or eighteen foot "ARMCO" Iron Culvert of small diameter and *jouncing* it up and down as hard as you can. You cannot loosen the joints or damage the pipe. This is one good test for corrugated pipe in general.

5 **"ARMCO" Iron Culverts carry the maximum quantity and quality of galvanizing.** This material has a great superiority over substitute metals in its ability to take a heavy coating of pure zinc, *and retain it under forming operations.* "ARMCO" Iron Culverts meet the United States Government specifications of two ounces of galvanizing to the square foot.

6 **Protection for the Culverts in shipping and installing and after they are placed in service is secured by the rodded end.** A heavy rod is rolled into the end sections. It gives ample reinforcement exactly where it is needed, and entirely does away with battered and bruised ends and the danger to stock from the exposed edges of unprotected corrugated pipe. This development also results in giving the culvert a finished and handsome appearance.

7 **Strong, convenient and lasting coupling devices** are provided where it is necessary to ship the pipe in more than one section to be joined in the field. This is an element not to be despised when considering long service under varied conditions.

8 **Toughness and resiliency** are qualities of thoroughly well made corrugated pipe. "Armco" Iron Culverts are capable of withstanding conditions caused by freezing and thawing or by settling and shifting foundations which are speedily fatal to many otherwise excellent constructions.

9 **Plates and rivets are always of gages and dimensions specified.** There is no skimping of metal. The Culverts are always of full gage *all the way through and not merely at the end sections.* The size of the pipe is that of the *net internal diameter,* and the length is that stated on the invoice. Put them on the scales and see whether they weigh what they should. That is a quicker and surer method than gaging, and is readily applicable to any culvert. *See that you get what you pay for.*

10 **Their material is "ARMCO" (American Ingot) Iron**—the *purest,* most *even* and most *durable* of all metals available for culvert use. The "Armco" Triangle Brand is everywhere a guarantee of quality. On corrugated culverts it indicates the recognized standard as to material and construction.

For full information on Rust-Resisting "Armco" Iron Culverts, Flumes, Siphons, Sheets, Roofing and formed Products, write the nearest manufacturer.

Arkansas, Little Rock—Dixie Culvert & Metal Co.
California, Los Angeles—California Cor. Culvert Company
California, West Berkeley—California Corrugated Culvert Company
Colorado, Denver—R. Hardesty Mfg. Co.
Delaware, Clayton—Delaware Metal Culvert Co.
Florida, Jacksonville—Dixie Culvert & Metal Co.
Georgia, Atlanta, Dixie Culvert & Metal Co.
Illinois, Springfield—Illinois Corrugated Metal Co.
Indiana, Crawfordsville—W. Q. O'Neall Co.
Iowa, Des Moines—Iowa Pure Iron Culvert Co.
Iowa, Independence—Independence Cor. Culvert Co.
Kansas, Topeka—The Road Supply & Metal Co.
Kentucky, Louisville—Kentucky Culvert Co.
Louisiana, New Orleans—Dixie Culvert & Metal Co.
Maryland, Baltimore—Wm. M. Baker, Munsey Building
Massachusetts, Palmer—New England Metal Culvert Company
Michigan, Bark River—Bark River Bridge & Culvert Company
Michigan, Lansing—Michigan Bridge & Pipe Co.
Minnesota, Minneapolis—Lyle Corrugated Culvert Company
Minnesota, Lyle—Lyle Corrugated Culvert Co.
Missouri, Moberly—Corrugated Culvert Co.
Montana, Missoula—Montana Culvert & Flume Co.
Nebraska, Lincoln—Lee-Arnett Co.
Nebraska, Wahoo—Nebraska Culvert & Mfg. Co.
Nevada, Reno—Nevada Metal Mfg. Co.
New Hampshire, Nashua—North-East Metal Culvert Company
New Jersey, Flemington—Pennsylvania Metal Culvert Company
New York, Auburn—Pennsylvania Metal Culvert Co.
North Dakota, Walpeton—Northwestern Sheet & Iron Works
Ohio, Middletown—American Rolling Mill Co. The Ohio Corrugated Culvert Co.
Oklahoma, Shawnee—Dixie Culvert & Metal Co.
Oregon, Portland—Coast Culvert & Flume Co.
Pennsylvania, Warren—Pennsylvania Metal Culvert Company
South Dakota, Sioux Falls—Sioux Falls Metal Culvert Company
Tennessee, Nashville—Tennessee Metal Culvert Company
Texas, Dallas—Wyatt Metal Works
Texas, El Paso—Western Metal Mfg. Co.
Texas, Houston—Lone Star Culvert Co.
Utah, Woods Cross—Utah Corrugated Culvert & Flume Company
Virginia, Roanoke—Virginia Metal & Culvert Co.
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300 Feet of 6-ft. Diameter "ACME" (NESTABLE)

Corrugated NO-CO-RO METAL Culverts

Imagine these 300 feet of "ACME" Culverts shipped set-up in full circle. It would take *eight* gondolas, each with only a minimum load—extra freight per lineal foot for *somebody* to pay. And then, how *would* you unload from the cars and onto your wagon—and haul to the ditch, regardless of total weight and clumsiness, with roads good, bad or indifferent? A pretty tough job at the best, eh?

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With these two layouts before you you can readily account for our big business in these large diameter Corrugated Culverts. And you can *profit*, also.

THE CANTON CULVERT & SILO CO.
MANUFACTURERS
CANTON, OHIO, U.S.A.

Six Features of "P. F. T." SEWAGE EJECTORS

No screening necessary. Sewage kept moving practically all the time. No wearing parts in sewage. Little or no attention needed. No open sumps or wells needed. So simple they should outlast any other device on the market.

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Catalog No. 17 covers Ejectors.

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Felton's Improved Couplings for Conduit and Sewer Rods

These Couplings represent the latest and most improved device for connecting sewer and conduit rods. No other coupling possesses so many strong features of merit.

Some of the Users of Felton Patent Couplings

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For Cleaning Sewers and Drains: City Engineers, Contractors, Sewer Departments, also Schools, Hospitals, Asylums, Army Posts, Barracks, Railroads, Corporations with Independent Sewer Systems.

Send for circular and prices.

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Manufacturers of

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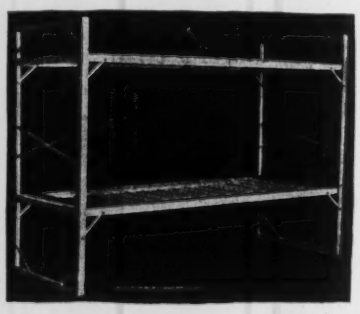

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Romelink Bunks are clean, sanitary and **permanent.** They save you money in setting up camp and when you **move camp.** Set up by a small boy—no skilled men needed.

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Security Rods are made from second-growth hickory, with malleable iron couplings swedged or shrunk down very tightly on to the curved places at end of sticks. Security couplings *cannot* come off.

Joint and unjoint easily and quickly—light weight—long runs easily made. No slack but lend themselves to all practical bends.

They cannot buckle or uncouple in the duct.
Send for Flyer No. 18.

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Standard for Quality.
Prices no higher than other Pipe.
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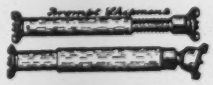

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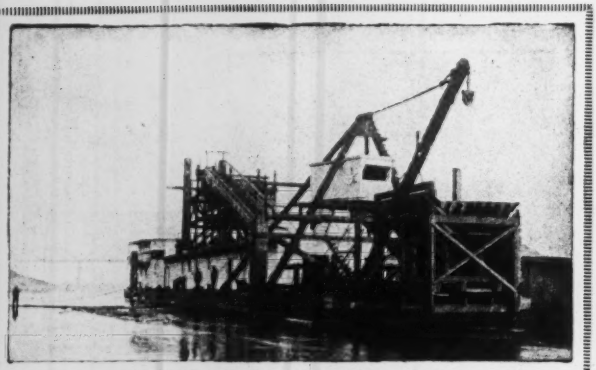

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Washing Sand and Gravel

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A special plant designed to meet particular conditions. It delivers a clean graded product at a low cost.

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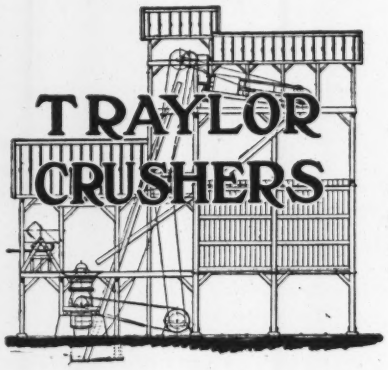

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Call upon us for plans or specifications to meet your conditions. We will send one of our engineers to co-operate with you in the design and laying out of your plant.

Tell us your requirements.

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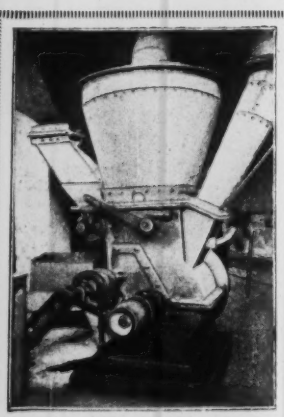

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used in producing a fine ground
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for manufacturing
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We specialize in the manufacture of pulverizing machinery for the fine grinding of all materials to a powder.

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CRUSHING ROLLS—MAGNETIC SEPARATORS
Crushing Plants complete in all details from 100 to 5,000 tons daily capacity.
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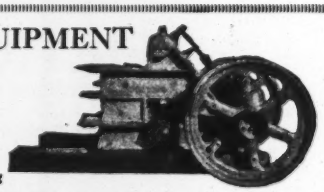
Complete Crushing Plants
Road Oilers
Road Scarifiers
Street Sweepers



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Sell—Exchange—Rent

Some one is probably looking for those items you want to sell. The same person may have just the things you want to buy.

Let the Searchlight help YOU

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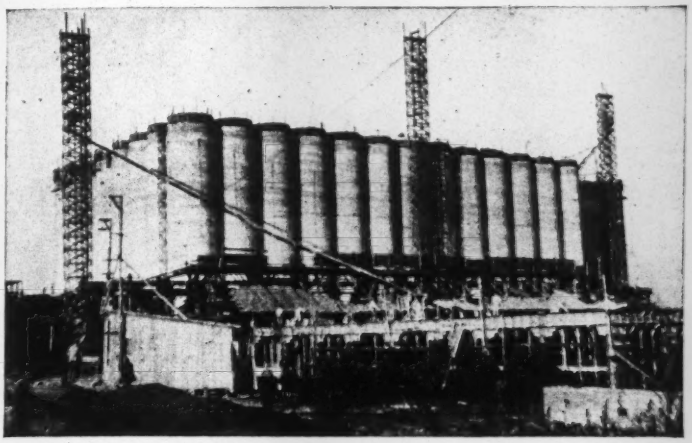

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Write us for full particulars as to the proper equipment for producing most work at least expense. Our Engineering Department will gladly send you full details free upon request. Wire at our expense if you need prompt attention.

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MEMBER OF NATIONAL ASSOCIATION MIXER MFRS

Paving Mixers

Marsh-Capron Pavers have all the advantages of the **Rail Track Mixers**, and more. Made in four sizes—from the largest paving mixer built to a one-bag machine. They may be had with end or side loaders. Can be used on large jobs in connection with industrial cars, with great success.

MARSH-CAPRON MFG. CO., 1475 Lumber Exchange, **CHICAGO**

4 Savings of the SPRACO Paint Gun

3—Time

If you've ever watched a painter or a group of painters in their efforts to give a structure or a piece of equipment a uniform coating—

You'll appreciate the speed of the Spraco Paint Gun and its happy faculty of *shooting* a smooth even coating free from brush marks—and with no spattering or splashing of the paint.

It's a big time saver in coating a hollow or inaccessible surface, too—

As you will learn from the booklet we will be glad to send you.

Spray Engineering Co., 93 Federal St. Boston, Mass.
Cable address: Spraco, Boston. Western Union Code.

Replies to

"WANT" and "FOR SALE"

Advertisements

in this paper may be keyed to our

CHICAGO, PHILADELPHIA or SAN FRANCISCO

office, if preferred, and these replies will be mailed promptly each day to the advertisers the same as though received at our New York office.

NEW YORK OFFICE: 10th Ave., at 36th Street

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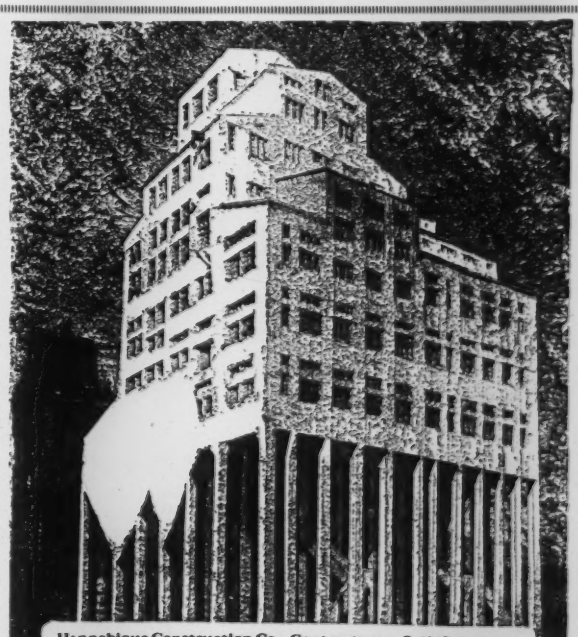
San Francisco, 501 Rialto Bldg.
Chicago, 1144 Monadnock Block

801

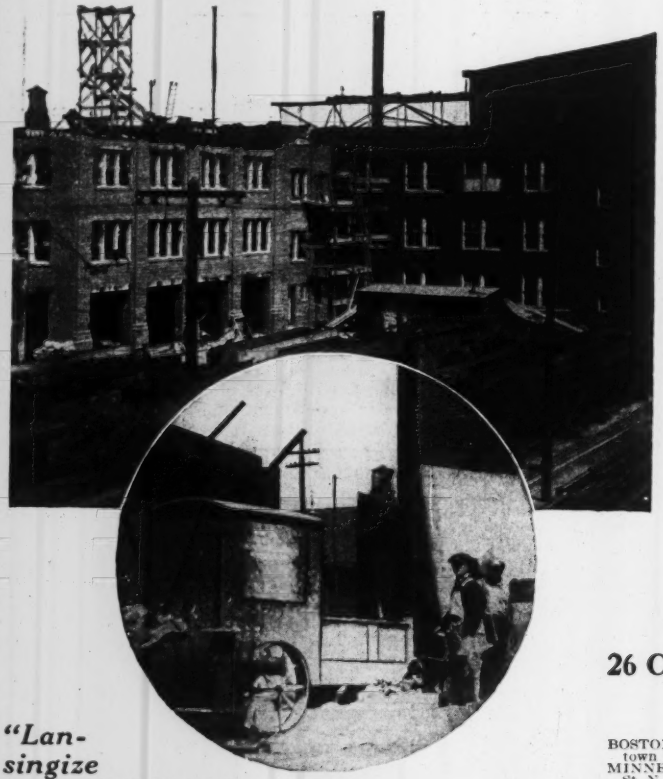


Hennebique Construction Co., Contractors © 1917, P. C. Co.

PENNSYLVANIA CEMENT

A Coal Breaker erected for the Lackawanna Railroad at Taylor, Pa.—the first to be built of concrete. Strength and permanence were ensured by the use of Pennsylvania Cement, noted for the *uniformity* of its high quality.

Pennsylvania Cement Co. 30 East 42d St., New York



"Lansingize your 1917 Work"

The LANSING Mortar Mixer

is not a concrete mixer "made over"

It has the big advantage of being designed and built from the ground up as a mortar mixer. That's why it's so efficient. That's why it turns out a richer, stronger product with less lime. That's why you can get 2 men to do the work of 6 or 8 not using a Lansing. Every user will tell you "It's the best I have ever seen or used." There's one at work near you—write us and we will tell you the locality—then, *investigate.*

LANSING COMPANY
KEEP YOUR PRODUCT ON WHEELS

26 Cedar St., Lansing, Mich., U. S. A.

or address our nearest warehouse

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MINNEAPOLIS, 517-519 Third St. N.
PHILADELPHIA, Willow and No. American Sts.
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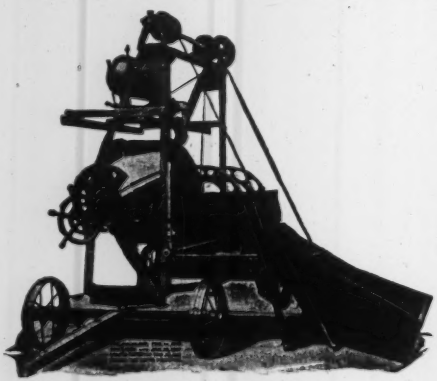
CHICAGO, 167-169 West Lake St.
NEW YORK, 288-289 West St.
KANSAS CITY, 1413-1415 W. Tenth Street.



WONDER MIXERS

Give longer mix and better quality with output equal to others of same capacity by reason of their short travel loaders. Or, if speed is the main thing you get more batches per hour with quality equal to any.

This is only one of the reasons why many of the largest contractors are *Standardizing* on the WONDER.

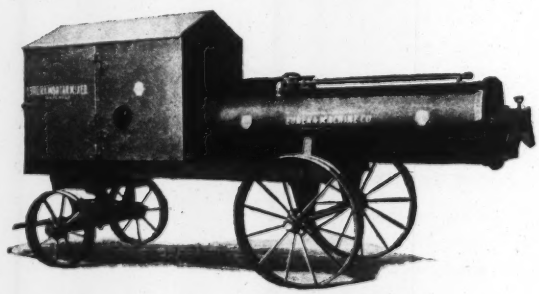
Ask us for more reasons.

Waterloo Cement Machinery Corporation

110 Vinton St., Waterloo, Iowa

New York Chicago Kansas City San Francisco

EUREKA



Mortar Mixer

The Eureka Mortar Mixer will enable you to fire three men from your mixing gang, and it will produce better mortar than you obtain by hand mixing. It produces a smooth and uniform mixture free from all lumps or sand pockets, with a big saving in lime. "You cannot afford to mix mortar by the man and hoe method."

Also all sizes Concrete Mixers.

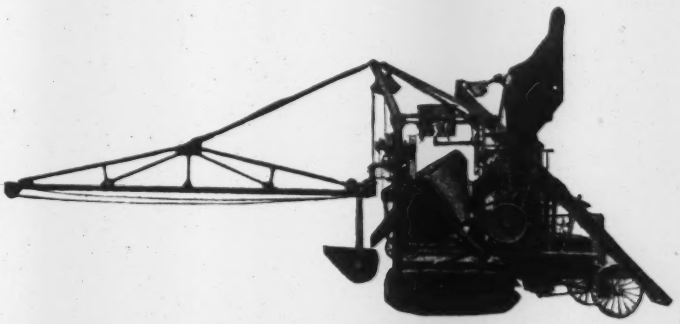
Send for our Bulletin No. 54.

EUREKA MACHINE CO.

105 Handy Street, Lansing, Michigan

MULTIPEDAL TRACTION

it will keep your Mixer out of the Mud



CUBE MIXING

the most perfect Mixing that Mixer service knows

THE FULL BATCH TURN-OVER BUCKET

designed by "Austin Engineering" to give

SPEED together with *PERFECT CONCRETE*

When concrete is poured into the bucket, the grout comes to the top—when emptied by turning over the grout is on the bottom—when tamped, the grout is forced up through the aggregate—and then you're certain to have a solid slab of concrete (there can't be any honeycombs).

The turn-over principle in operation insures *perfect concrete*, and the full batch adds *speed*.

The renewable drum plates insure long life.

We desire to give the contractor best possible delivery service, but to do so we require your co-operation—please let us know your needs well in advance.

Write today for Catalog No. 3 of the complete line of Austin-Cube Mixers.

MUNICIPAL ENGINEERING & CONTRACTING COMPANY

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MEMBER OF NATIONAL ASSOCIATION MIXER MNFRS

Main Office: Railway Exchange Bldg., Chicago

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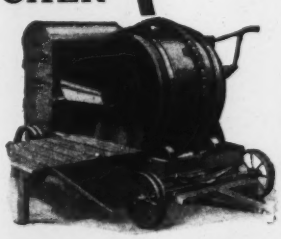
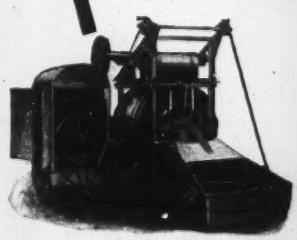
KNICKERBOCKER

Built for SATISFACTORY SERVICE —Gives It



In building for the need of the user for years, we have eliminated the user's troubles. For instance—to keep the user from pounding the loader, we build the mixing drum large enough to permit a large opening on charging side. This lets us make our loader very much wider at the discharge end than is found on any other mixer. That is what makes fast charging. Other features, such as tracks that do not flatten—slop guards on both sides of the drum and fast discharging are explained in our catalog.



We build Mixers in twenty styles and sizes, also Mortar Mixers and Saw Rigs.

The Knickerbocker Company
400 Liberty Street, Jackson, Mich.

RANSOME

Contractors
using the
Ransome Bantam Line of Mixers

in building construction combine rapidity, efficiency and lack of waste with original low cost of equipment.

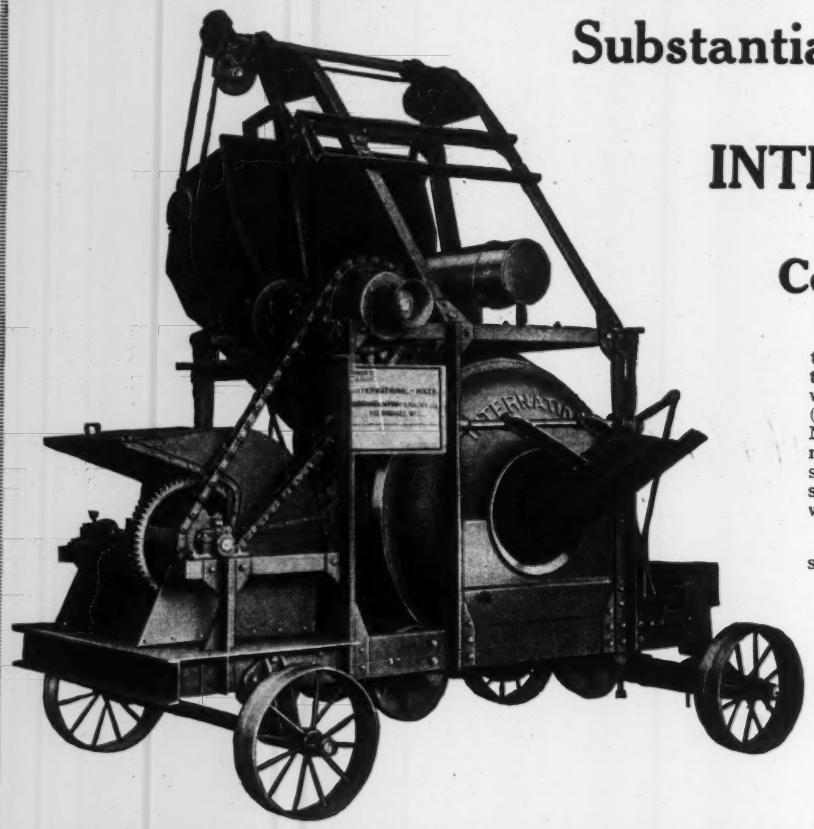
Write for catalogs.

MIXERS

Everything from SAND PILES TO FORMS.
AGENTS IN EVERY LARGE CITY.

Ransome Concrete Mchy Co.
DUNELLEN, NEW JERSEY

Chicago—[illegible] N. Clinton St.
San Francisco—[illegible] Bldg.
NATIONAL ASSOCIATION MIXER MNFRS
Executive Offices: [illegible] Broadway, New York



Substantial Construction

is the Keynote of

INTERNATIONAL

Motor Driven

Concrete Mixers

The illustration shows the International standard mixer mounted on trucks with side loader and automatic water tank, electric motor drive (chain) with steel motor housing. Note the frame of heavy steel channels, the angle-section overhead construction, the semi-steel drum, the self-oiling, ground and chilled tracker wheels.

Made in 7, 12, 15, 27 and 50-foot sizes.

Write for Bulletin 66A.

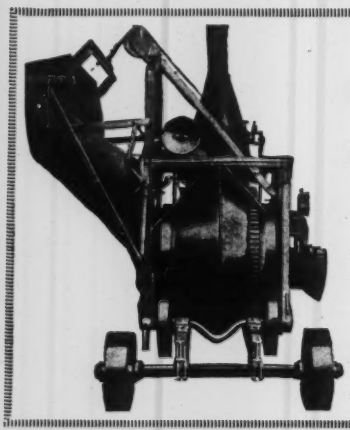
WORTHINGTON PUMP AND MACHINERY CORPORATION

Power and Mining Machinery Works

Cudahy, Wis., U. S. A.

Surburb of Milwaukee

M 427-4



FOOTE
Concrete Mixers

"The Repeat Order Mixer"

C. Foote Mfg. Co., Inc.
Nunda, N. Y.

Send for Circular "B"

HAINS Gravity Batch Concrete Mixers and Controllable Discharge Bottom Dump Buckets

AUTOMATIC CONCRETE MIXER CO., Inc.
429 Kinsley Avenue — *Sole Makers and Distributors* — Providence, R. I.

Pneumatic Method of Concreting
(Patented)
for Tunnel Lining and Heavy Concrete Work
CONCRETE MIXING & PLACING CO.
123 West Madison Street, Chicago

THE OLDEST MANUFACTURERS OF HIGH GRADE PORTLAND IN THE WORLD. EXTRA QUALITY ALWAYS

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AMERICAN 45 BROADWAY, NEW YORK GERMAN

The Fuller Engineering Company
Designing and Constructing Engineers
Cement and Hydrated Lime Plants a Specialty
Pulverized Coal Installations for Industrial Furnaces
Office: Allentown National Bank Building ALLENTOWN, PA.

"Homogeneous, FREELY FLOWING concrete"

Hydrated Lime Improves Concrete
for data, address HYDRATED LIME BUREAU
of the National Lime Manufacturers Association
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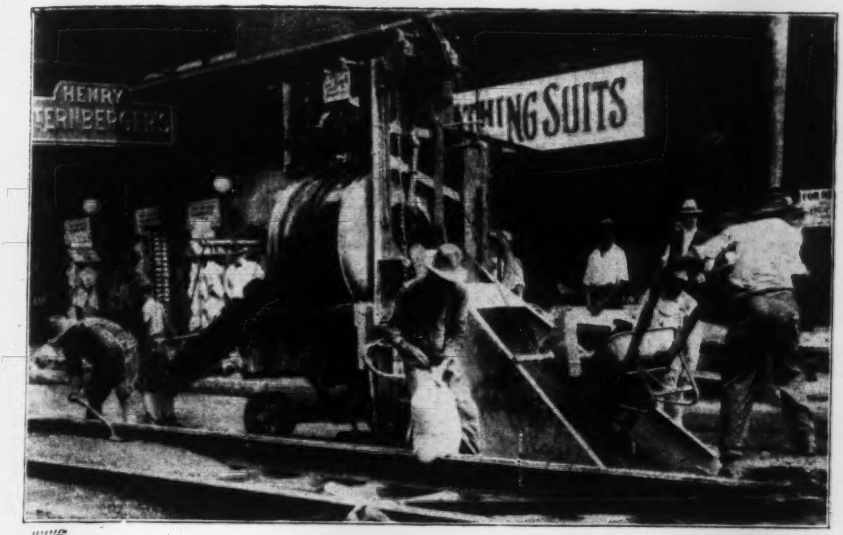
"Stronger, denser, waterproof concrete"

MINWAX

Waterproofing Materials and Protective Paints of proven dependability. **Send for the Bulletins.**

THE MINWAX CO. INC. 18 E. 41ST ST. NEW YORK



SPEED

The job was paving one of the busiest streets of Cincinnati. The street had to be reopened for traffic in the shortest possible time and the pavement had to be placed without any interruption to car traffic (about 45 cars were passing hourly).

The Kirschner Construction Co., contractors, had to have a mixer that worked fast, that was easily handled, and that was compact enough to use in the narrow space between the curb and the car tracks.

They chose an Ideal Cincinnatus No. 14 Batch Mixer and in spite of all obstacles averaged 150 cu.yds. daily (8 hours).

We make a complete line of reliable Paving Mixers and sell them at reasonable prices. Write for catalog.

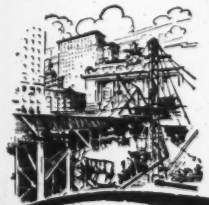
Ideal Concrete Machinery Company

1320 Monmouth Avenue, Cincinnati, Ohio

Windsor, Canada

The Problem of Maximum Strength With Minimum Area is Solved by

CONCRETE



Our skyscrapers, subways and increasingly large structures of every kind demand the use of materials of the highest standard.

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THE BACKBONE OF PERMANENT CONSTRUCTION

Samuel H. French & Co.

Established 1844 **Philadelphia**

Business Established 1832

The Lawrence Cement Co.

No. 1 Broadway **New York**

Selling Agents for

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PORTLAND CEMENT

In Successful Use Upwards of a Quarter-Century

Book on request showing uses and testimonials

"Concrete for Permanence"

DEXTER

for

Service and Quality

Dexter Portland Cement Company
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Cement Making Factories

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Plans, Estimates, Construction

Physical and Chemical Tests of Materials
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Concrete for Permanence

Write for FREE Pamphlet

"CEMENT SIDEWALKS"

Containing

Cellar Floors—Hard, Dustless Floors

VULCANITE Portland CEMENT CO.

PHILADELPHIA **NEW YORK**

12 Years

OF PERFECT AND CONTINUOUS SATISFACTION

"ANTI-HYDRO" FOR PERMANENT CONCRETE
HARDENS WATERPROOFS

That is the record of "Anti-Hydro" as a concrete hardener and waterproofer. Pits forty feet deep under the East River and pits ten feet below tide-water on the Jersey meadows, subjected to acid conditions inside, and salt water conditions outside since 1904, show no disintegration whatever. Mix "Anti-Hydro" with your cement and insure concrete that is lastingly hard, waterproof and acid, oil and alkali resisting. Ask us for more information about "Anti-Hydro" and list of installations, write for details today.

THE ANTI-HYDRO WATERPROOFING CO.

New York Office, Singer Bldg. Laboratory, Newark, N. J.

Branches at Boston, Detroit, Cleveland, Chicago, Buffalo, Louisville, Philadelphia, and Washington.

A Ceiling Socket that saves the Contractor's Time

Security Inserts not only make ceiling loads safe, but in addition they offer the contractor the quickest possible method of providing for such loads. They are easy to insert, are very simple in construction, and are strong and lasting. The concrete sets around them and grips them firmly. Sizes from $\frac{3}{8}$ to $\frac{7}{8}$ inches. **Ask for Security Bulletin.**

Security Insert Company

101 N. 33rd St., Philadelphia, Pa.

FAC-SIMILE OF LABEL

Cut the High Cost of Building

Save Approximately $1.00 per Barrel by Using

Brooklyn Bridge Brand Rosendale Natural Cement

Will lay more brick per barrel.
It has no waste. Free from grit.
It has strong adhesive quality.
It is a fireproof material.

100% is Cementing Material

Made in New York State

Ease and Speed of Installation

THIS exceptionally strong and fireproof construction is so simple in design that previous experience in its erection is not necessary. Erection drawings are furnished with each shipment, and each piece is cut to fit and marked to correspond with the identification marks on erection diagrams.

BERGER'S

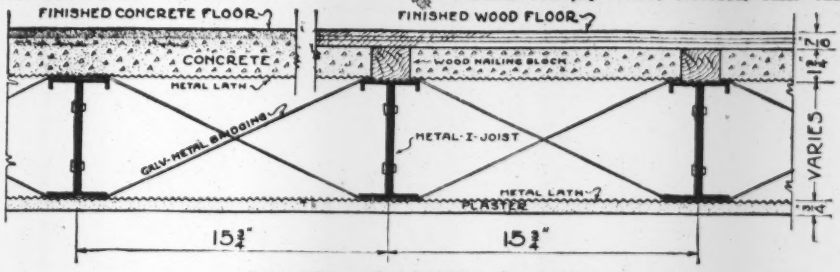
Metal Lumber

(Patented)

Standard Floor Construction

Joists—Set without forms or centering. **Bridging**—One inch flats nailed into webs of joists. **Metal Lath**—Applied to bottom by means of prongs. Laid on top of joists and nailed into web with roofing nails. **Wood Nailing Blocks**—Placed on top of and parallel to the joists and nailed directly into the web of the joist. **Concrete Fill**—1:2:4 mixture, applied on metal lath without forms. See illustration.

Madison Township School, Trotwood, Ohio. Albert Pretzinger, Architect, Dayton, Ohio



Section Showing Standard Floor Construction

Send for Technical Bulletin 12-E.R.

The Berger Mfg. Co.

CANTON, OHIO

Branches: Boston, New York, Philadelphia, Chicago, St. Louis, Minneapolis, San Francisco, Los Angeles

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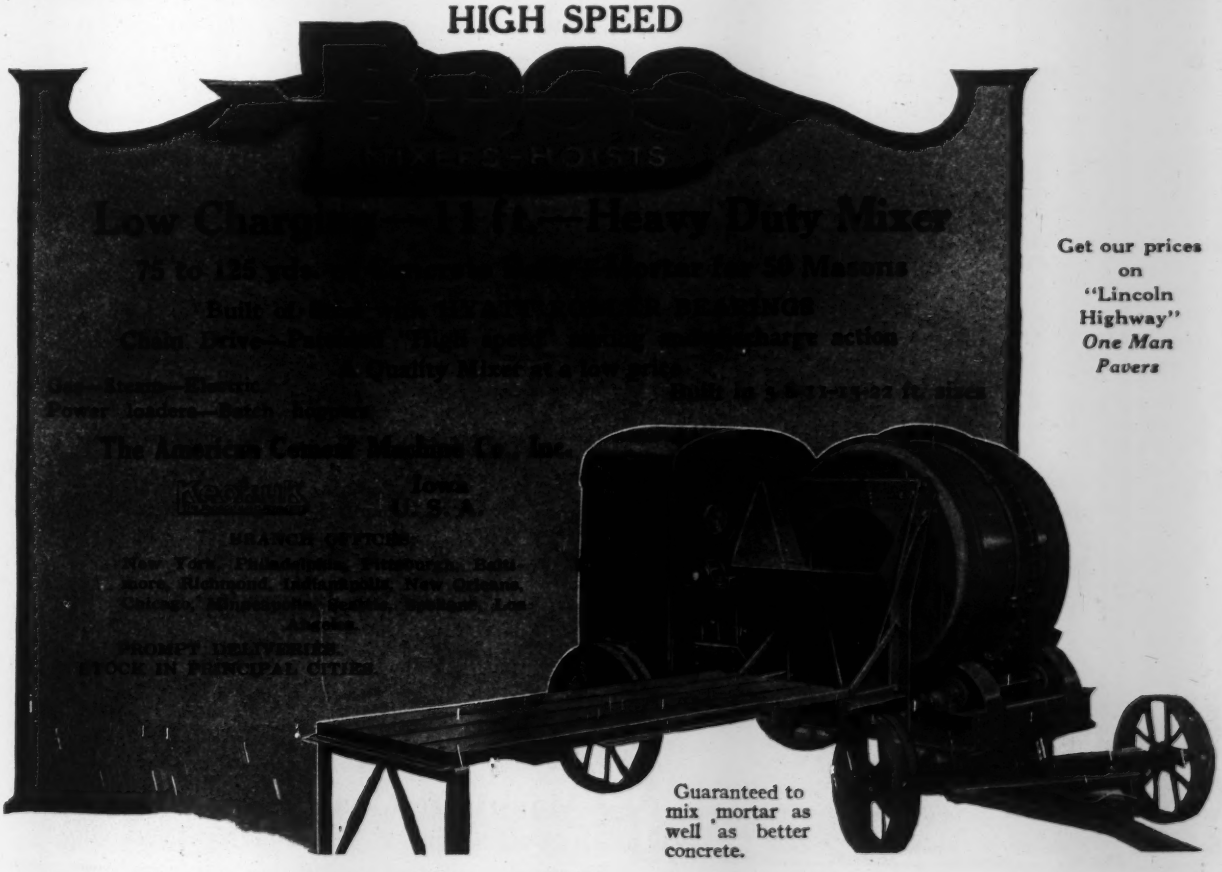
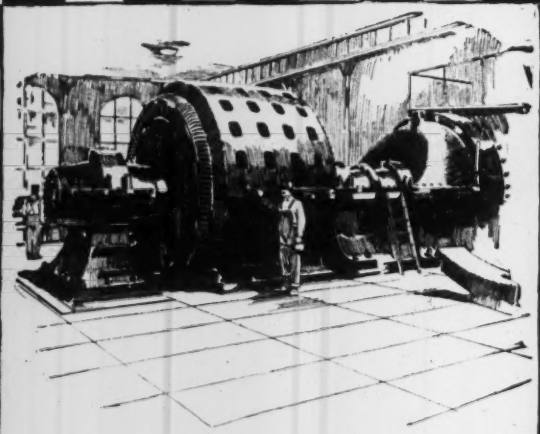
HIGH SPEED



Get our prices on "Lincoln Highway" *One Man Pavers*

Guaranteed to mix mortar as well as better concrete.



What Do Your Floors Cost?

WE don't ask what they are *worth*—we ask how much they cost you in lost time, cost of maintenance and damaged machinery.

Perhaps it has never occurred to you that unprotected cement floors may be the cause of your machinery trouble. Perhaps you never realized that the fine, gritty dust from the floors is what makes your bearings run hot and your dynamos and motors to spark.

R.I.W. (REMEMBER IT'S WATERPROOF) **CEMENT FILLER & CEMENT FLOOR PAINT**
REG. U.S. PAT. OFF. PATENTED AS TO PORTLAND CEMENT POSITION

will make your floors durable, dustless and cheaper to maintain. Oil, water, and acids cannot soak into and soften the cement because the surface is scientifically sealed.

Floors treated with R.I.W. Cement Filler and Cement Floor Paint will not crack or disintegrate, and will give longer, cheaper and more satisfactory service all around.

They are specified by experts the world over.

Write for descriptive literature, Dept. R.

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Technical and Scientific Paint Makers Since 1848.
320 Fifth Avenue New York
Works: New York; London, Eng.; Toronto, Can.

R.I.W.
REMEMBER IT'S WATERPROOF
REG. U.S. PAT. OFF.
STEEL NEED NOT RUST!
WOOD NEED NOT ROT!
NOR CONCRETE DUST!

Run of sash in Johnson & Johnson Bldg., New Brunswick, N. J., operated by our Rocker Shaft Type of operating apparatus.

L & B Apparatus Operates the Sash in Johnson & Johnson War Addition

Johnson & Johnson, manufacturing chemists, at New Brunswick, N. J., found themselves deluged with War orders. Found it necessary to add *three stories* to one of their large buildings. All sash in the addition are operated by L. & B. apparatus. Our deliveries notched right up to their rapid fire constructing pace.

The sash operating apparatus shown above, is on the third story of the addition.

It is of our Rocker Shaft Type. Operates 8 sash from each gear. Gear is placed in center of each run and worked by a hand chain. The sashes are hinged at the bottom and open *inward*. They can be operated with ease and held ricid at any angle. Simple. Durable. Dependable.

We have an apparatus among our three distinct types to solve *your* problem.

Send for Catalog.

Lord & Burnham Co.
Irvington, N. Y.

"MARITIMO"

Acid Resisting **Non-Inflammable**

Maritimo Coating
TRADE MARK

IMPERVIOUS COATING

For

Steel Pipe Lines Acid Tanks Steel Piling
Stand Pipes Gate Locks Service Water Tanks

Improved Method of Application Applied Cold

Maritimo Coating Corporation
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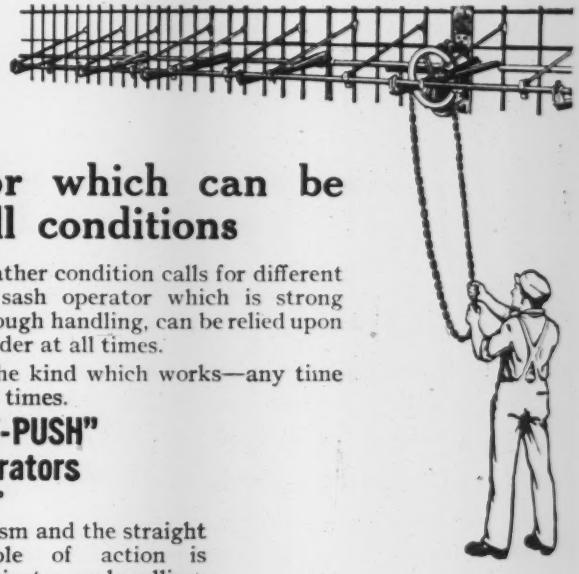

The sash operator which can be adjusted to all conditions

Cold, heat, storm, clear—every weather condition calls for different ventilation adjustment. Only a sash operator which is strong enough to stand steady, and often rough handling, can be relied upon to be in working order at all times.

Make sure your sash operator is the kind which works—any time and at all times.

"STRAIGHT-PUSH"
Sash Operators
PATENTED

The spur gear mechanism and the straight push-and-pull principle of action is positive and proof against man-handling.

The G. DROUVÉ CO., Bridgeport, Conn.
180 N. Dearborn St., Chicago

By Wire — By Telephone — By Mail

No Matter How You Order

"Franklin"

Steel for Concrete Reinforcing

You get it as promptly as you need it. Service is one of the chief things that has made the quality of Franklin Steel popular. Prices are right, too. Ask for quotations.

Bulletin explaining just WHY Franklin Steel is extra strong will be mailed you on request.

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3000 c.p.—12 hrs. Cost 34c.

34c.—this insignificant sum gave 12 hrs. brilliant light (3000 c.p.). It was

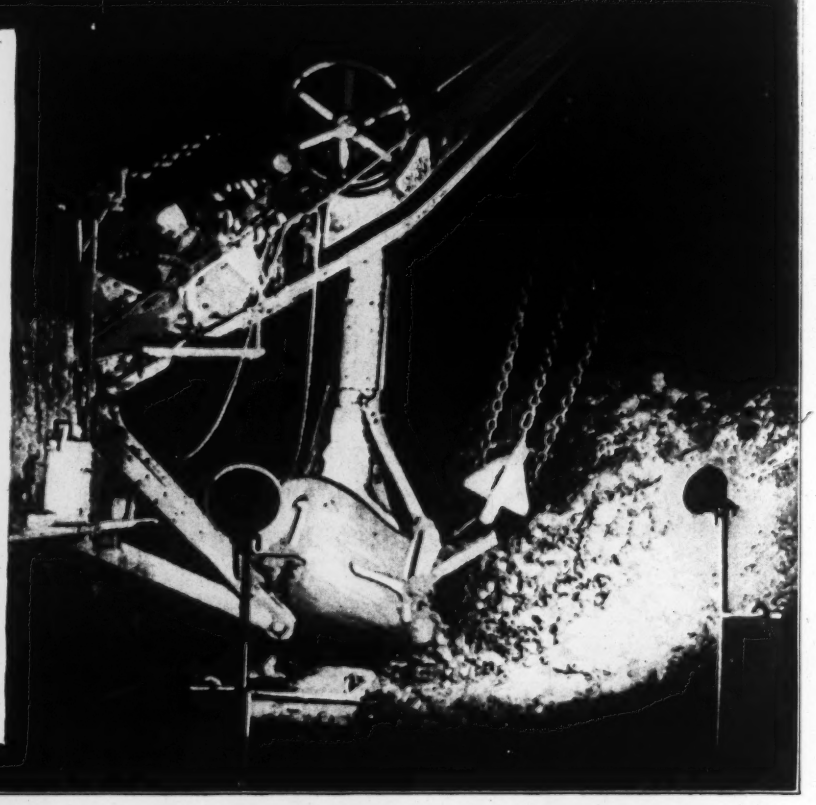
THE MILBURN LIGHT

No trouble getting fuel for a Milburn Light either—just drop into the nearest store and ask for "Carbide"—that's what it burns.

Working with a Milburn is almost like working by day. It puts profit instead of drudgery into night work.

We have a trial proposition that will interest you—write—ask also for Catalog No. 21.

The Alexander Milburn Company
Baltimore, Md.



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will stop steam or water leaks in castings, boilers, pipes, etc.

Our new 144-page instruction book is free, it illustrates by photographs of actual repairs how thousands of dollars have been saved with Smooth-On. Send for free copy.

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For anything you want in Asbestos, turn to

KEASBEY & MATTISON COMPANY

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Owners of the world's largest Asbestos Mines

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IRVING'S SUBWAY GRATING **lasts and lights**
Patented November 28, 1911
Rigid, wear-proof, ventilating, lighting, non-slipping—
It's the logical GRATING-FLOORING for your plant, as Booklet A1J will prove. Write for a copy.
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Quick Shipments

Rounds

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Deformed

Wiscoform Construction
Engineering Cooperation

We invite your inquiries. We make a specialty of lump sum quotations, including *Reinforcing Bars*, *Wiscoforms* and *Ceiling Materials*, together with detailed working drawings showing location of all our materials in the structure. Your inquiries will receive our prompt attention.

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Rolling Mills and Offices, Pittsburgh, Pa.

Branch Offices: New York Philadelphia Boston Cleveland Columbus

No More "Mistakes"

For

The engineer—civil, mechanical, electrical, mining, the metallurgist, the chemist, the contractor, the surveyor, the accountant or executive in the industrial plant, public utilities corporation, county or railway offices.

Who uses the new Pony Marchant Calculator

Right along, in your office, weeks of work are being summed up, and thousands of dollars spent, on some ultimate figure. Is that figure correct? *It is correct if you used a Marchant Calculating Machine.*

Learn what this has meant in actual practice, what the many Marchant Calculating Machines in use today have done. **They have saved errors and time, paid for themselves over and over again.**

The new facility for RAPID figuring—addition, subtraction, division, multiplication, single and combined, prorating, taxes, discounts, costs—with ABSOLUTE ACCURACY, that the new Pony Marchant gives, will surprise and delight you.

Our special Bulletin H for Engineering and In Industrial Service, gives the facts. Send for it.

Marchant Calculating Machine Co., Oakland, Calif.

This Means You

Mr. Contractor Mr. Architect

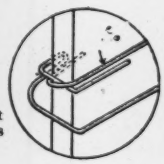
How are YOU going to protect the soffits of your steel structures from fire or corrosion in the best manner?

Read This:

Standardized Metal Caging positively "locks the concrete to the steel." It possesses none of the disadvantages of individual clips, which float or become bent; longitudinal rods that block the flow of the concrete or the nsufficient key at the corner which fabrics with large meshes commonly give. We have a complete stock and can fill large orders immediately.

Drop us a postcard for full information.

Here you see how S. M. C. clutches the steel.



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CONTRACTORS
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Underpinning and Foundation Work

Aqueducts, Subways, Railroad Work, Bridge Piers, Shafts and Tunnels.

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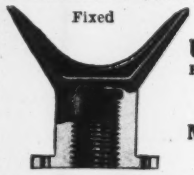
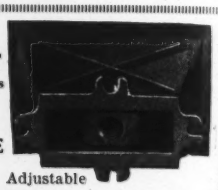
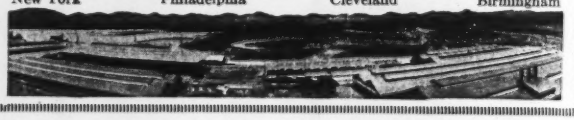


The UNIQUE INSERT
For Concrete Buildings
Made in Two Styles.
Send for sample.
MEDINA MACHINE COMPANY
MEDINA, O.



Adjustable

1,000,000 sq. ft. used at Panama
BONANZA CEMENT TILE ROOFING
It will solve your roofing problems too!
AMERICAN CEMENT TILE MFG. CO., Oliver Bldg., Pittsburgh, Pa.
New York Philadelphia Cleveland Birmingham



If there is anything you want—

or something you don't want—that *other* readers of this paper can supply—or use—advertise it in the

Searchlight Section

NOW is the time to offer good second-hand machinery for sale. Demand exceeds production for immediate delivery of some equipment; that's why the market on used equipment is so good.

NOW—or any othe time, use the Searchlight Section for advertising

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26

Steelcrete
TRADE MARK REGISTERED

EXPANDED METAL

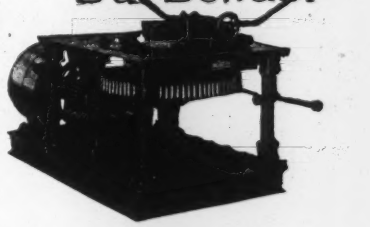
The concrete reinforcement used and endorsed by leading engineers all over the world.

Write for the Steelcrete Handbook. It will tell you why.

THE CONSOLIDATED EXPANDED METAL COMPANIES
Braddock - - - - - - Pa.
Offices and Warehouses in Principal Cities.

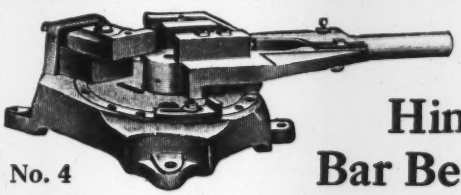
Bend Bars Yourself—Save Time and Money

McKenna Power Bar Bender



Rods up to 1¼ in. diameter.
Vise arrangement keeps rods in alignment when making more than one bend in a rod.
Cast steel wearing parts. Any style power drive.
Write for price and data.

THE McKENNA CO., 1851 East 38th St. Cleveland, O.



It's a

Hinman Bar Bender

No. 4

This size (No. 4) has greater range for heavy work than any other bender on the market. It will bend cold stock up to and including 1¼ in. round, square or twisted bars. Also flats. Right angles of any desirable radius in one operation. Also hooks, U's and stirrups.

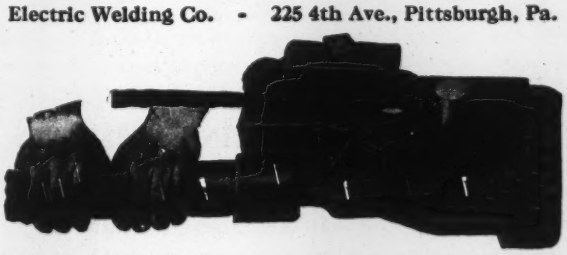
Several sizes and styles. Send for circular describing the full line.

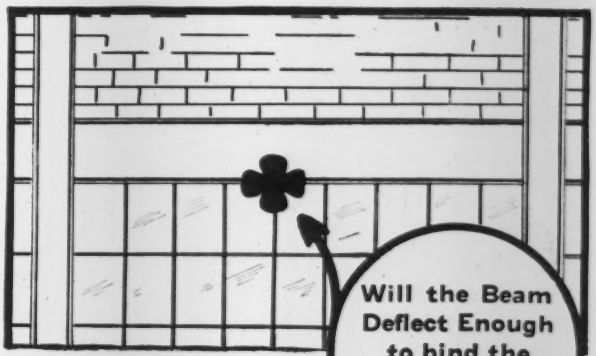
D. A. HINMAN & CO., 27 Main St., Sandwich, Ill.

The EFFICIENCY Bar Bender

A portable tool that can be kept in an ordinary tool box. It will bend any size bar to any angle—plain, round, square, twisted or deformed. It's very simple in construction, as you see; and Common Labor can operate it. It's the ONLY bender on the market that will bend *hooks on rods* in one operation. The LOW price will surprise you.

Electric Welding Co. - 225 4th Ave., Pittsburgh, Pa.





The beam has been designed—it carries a uniform load of 10,600 lbs. It has a 16-ft. span and is 10 x 15 in. (depth to steel) in section-reinforcement—4¾-in. rods. Will it deflect enough to bind the sash?

$$D = \frac{.000434 \times 10600 \times 192^3 \times 76}{1{,}000{,}000 \times 10 \times 15^3}$$

The Engineer could solve this problem in 55 seconds and have proof of accuracy on a

MONROE

CALCULATING-ADDING MACHINE

The Monroe Calculating Machine is being used by the large engineering corporations on concrete, steel, earthwork and hydraulic computations—on payroll, estimate and cost work.

Monroe simplicity and ease of operation—simply a forward turn for Addition and Multiplication and the reverse operation for Subtraction and Division, with a visible proof of accuracy at every step—reduce the most complicated calculation to an easy and accurate machine process.

No cost or obligation for 'Book of Facts' or Demonstration on your own work in your own offices. Simply use the coupon.

Monroe Calculating Machine Co.
General Offices: Woolworth Building, New York City
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COUPON

Monroe Calculating Machine Co.,
Woolworth Building, New York City.

Without obligation to me send full particulars of the Monroe Calculating Machine and explanation of the simple method of operation.

Name.....

Address.....

UNION EXCAVATOR

Note that the carriage can be operated on an underslung boom. Let us turn your derrick into a steam shovel.

Details await your request.

Union Iron Works
Lackawanna Siding
Hoboken, New Jersey

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Established 1902

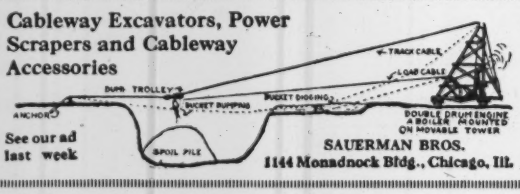
Dock, Trestle and Bulkhead Construction

Land Pile Driving

WEST STREET BLDG., NEW YORK

Work on Staten Island Sound, Newark Bay, Passaic River and Adjacent Territory a Specialty

Cableway Excavators, Power Scrapers and Cableway Accessories



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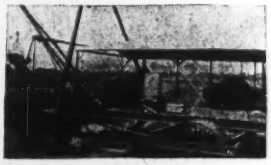
1144 Monadnock Bldg., Chicago, Ill.

ECONOMY EXCAVATOR

4 Buckets a minute is its record. A lightweight, broad-gage machine for Ditches, Highways, Stripping, Loading and Unloading Material, Laying Sewer Pipe and Tile.

Write for the Economy Book.



The Economy Excavator Co.
500 Washington Ave., Iowa Falls, Ia.
Successor to Gade Excavator Co.

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FOUNDATIONS—SPECIAL CONCRETE MASONRY
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SIMPLEX CONCRETE PILING METHODS

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"Walking Land Dredges"

Spans the cut. Built any width. Steel construction. Two men can operate. Equipped with oil engine. Ideal for clean out work. *Write for details.*

Bay City Dredge Works
2601 Center Ave. Bay City, Mich.

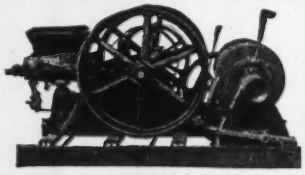
STEEL BARS

FOR

REINFORCING CONCRETE

Manufactured by
LACLEDE STEEL COMPANY
ST. LOUIS, MO.

Works-Madison, Ill. Alton, Ill.



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for constant duty

Simple, strong, durable. Adapted for gasoline and oil engines, steam engines, electric motors; gear or belt drive. O. K. Hoists represent the **highest efficiency** yet developed in hoisting machinery. Write for catalog.

O. K. Clutch & Mchy. Co.
Columbia, Penna.

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Outwear 4 Welded Bands
Write for Descriptive Folder

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Rolled Steel **"NEVERSLIP"** Floor Plates

American Pressed Steel Co.
Philadelphia, Pa.

The Underpinning & Foundation Co. 290 Broadway, New York City

Difficult Foundations

Pneumatic, Steel, Concrete and Wooden Pile Foundations. Bridge Piers; Underpinning Heavy Buildings.

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Write for Handbook N.

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Concrete Pile and Foundation Co.
120 Broadway, New York

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PILESHOES
Stock Sizes

Stop Crack Tie Hooks

Janney & Steinmetz
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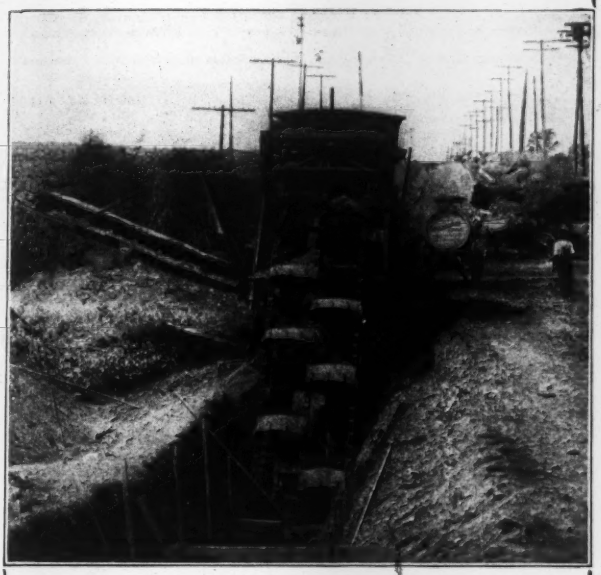
Established 1837

DIVING APPARATUS

LATEST DESIGNS Orders filled day received
U. S. Navy Standard
Special apparatus built to order

MINNEAPOLIS DIGS LARGE WATER MAIN TRENCHES WITH AN "AUSTIN

Digging a trench 20 ft. 0 in. deep, 72 in. wide, for 54 in. force main—the municipally-owned "Austin" maintained over a long period a very low cost of excavation.



This large "Austin" digs trenches up to 72 inches wide—adjustable side cutters furnished with all "Austins" enable each machine to dig trenches of various widths.

It's the exceptional ability of the "Austin" to dig constantly, under all conditions, that insures a low unit cost per yard wherever an "Austin" is put to work—Austin machines have proven their ability to dig successfully in any soil.

The superb Austin Multipedal Traction enables the machine to work on many days when other machines are compelled to remain idle—"Austin" quality construction is insurance against loss due to breakdowns. The use of belt permits of applying tremendous power, at the same time protecting the machinery and engine when digging shocks are encountered.

Write for Catalog 103a

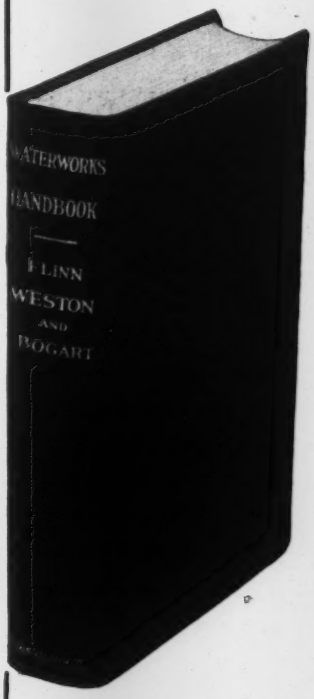
F. C. Austin Drainage Excavator Co.

Main Office: Railway Exchange, Chicago
New York Office: 30 Church Street

Representatives: A. A. Scully, Stair Bldg., Toronto; Howard-Cooper Corp., Portland, Oregon; W. H. Cowen, 625 Market St., San Francisco. Agents wanted in open territory.

Austin Trench Machines are now being imitated more extensively than ever before. In buying why take a machine to approximate a standard when you can get the standard itself?

It Covers the Ground



Waterworks Handbook

Compiled by **Alfred D. Flinn, Robert S. Weston,** and **Clinton L. Bogart,** specialists and authorities in this branch of engineering.

The volume adequately answers the problems of every waterworks man. Its material ranges from the sources of water supply, through the collection, transportation, delivery, distribution of water, to the character and treatment of water. All the problems incidental to a water system, large or small, are met with definite useful data in this comprehensive volume.

Make it your "look-up" book.

824 pages, 6x9, flexible leather, fully illustrated, maps, charts, diagrams, **$6.00 net, postpaid.**

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Water Purification

By Joseph W. Ellms

485 pages, 6x9, 149 illustrations, **$5.00 net, postpaid.**

Takes up in detail the physical, chemical and biological characteristics of natural waters, the relation of pollution to disease, and the steps in the purification processes.

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Single Closing Sheave Orange Peel Dredging and Excavating Bucket

The construction of this bucket is most substantial, being made of homogeneous steel plate of 60,000 pounds tensile strain. Bearings are steel bushed, removable and easily replaced.

The four blades which form the main body of bucket are made extra heavy, with the points reinforced and welded, insuring well-hardened points for penetration.

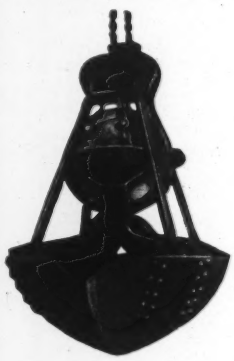
The lower casting on crosshead is made of cast steel, and likewise the top casting which receives the arms. The arms are made of heavy forged iron and steel bushed.

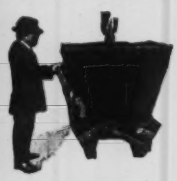
All sizes in stock for immediate shipment. We build buckets of all types.

Send for Catalogue

Theo. Smith & Sons Company

Jersey City, N. J. U. S. A.





Controllable Bottom Dump Bucket (Patented)

The full Stuebner line consists of Coal Hoisting, Mining, Excavating and Bottom Discharge Buckets — Steel Skips — Side and End Tip, Rotary Dump, Drop Bottom and Boiler Room Cars—Asphalt, Tar and Lead Melters, Hand Dump Carts, etc., etc.

Big Handling Capacity

and extreme durability are the foremost features of the

STUEBNER Hoisting Buckets

These steel buckets positively excel in efficiency. They effect a large money saving to the contractor on all work involving the handling of bulk material. *Write for Catalog "N."*

"Excelsior" Bottom Dump Concrete Bucket (Patented)

"Invincible" Bottom Dump Bucket (Patented)

Consult us on any bucket problem.

Self-Dumping and Self-Righting Turnover Bucket

G. L. Stuebner Iron Works

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"HUNT"

"Hunt" Noiseless Gravity Bucket Conveyors for coal, ashes, etc.

"Hunt" Automatic Railways for handling sand, ore, limestone, clay, etc.

"Hunt" Cable Railways for coal and merchandise.

Labor-Saving machinery of low cost maintenance.

C. W. Hunt Co., Inc.

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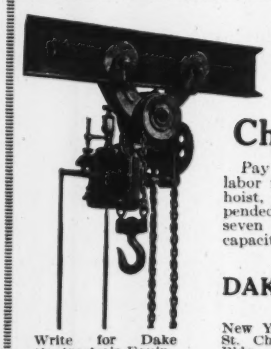
61 Broadway, N.Y. C. Evans Bldg., Wash. Fisher Bldg., Chicago



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Dake Hoists

with

Chain or Wire Rope

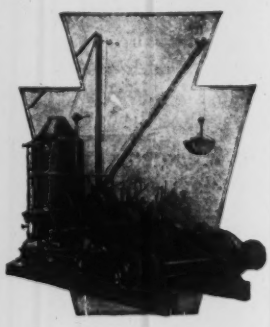
Pay for themselves by economizing time and labor for you. A compact, strong, and safe hoist, fully guaranteed. Holds the load suspended at any point without power. Made in seven different models, and in ½ to 10 ton capacities.

DAKE ENGINE COMPANY

Grand Haven, Mich.

New York Agent: H. L. Drullard, 30 Church St. Chicago Agent: J. E. Chisholm, 1410 Fisher Bldg. Boston Agent: Harold L. Bond Co., 383 Atlantic Ave.

The heaviest hoist—for the heaviest jobs



That's the Flory. It is the heaviest hoist built.

FLORY HOISTS

have convinced many contractors of the desirability of this heavy construction. Not only does it make for longer life, but it enables the hoist to stand that "extra strain"—so frequently confronted in contracting work. **Send for catalog.**

S. Flory Mfg. Company

Bangor, Pa.

THOMAS HOISTS ELECTRIC, STEAM AND GASOLINE

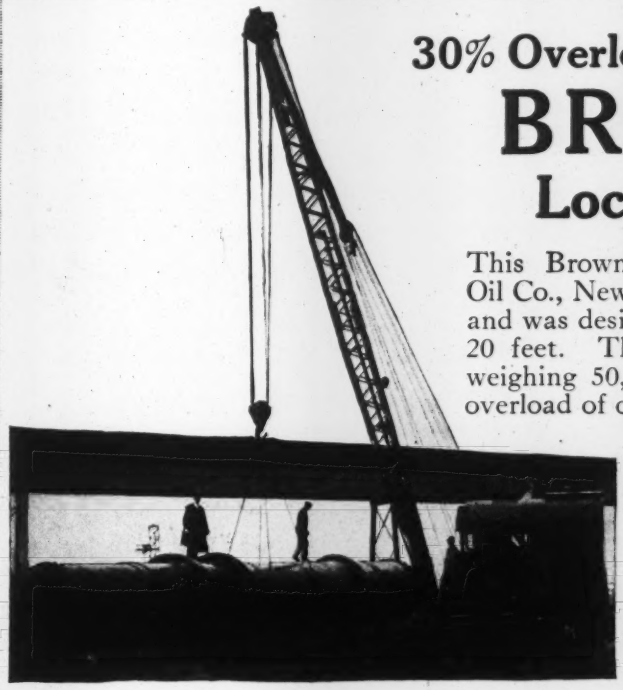
Builders' Hoists
Incline Railway Hoists
Mine Hoists
Dragline Hoists

Two Speed Hoists for Slack Line Cableway Service Clam Shell Derrick Hoists

In Thomas Hoists are embodied the results of 20 years' experience devoted to exclusive manufacture of Hoists. We make a hoist for every class of service and have built our reputation on **Quality.** Write for catalog.

Manufactured by Thomas Elevator Co. 22 So. Hoyne Ave. CHICAGO, ILL.

BRANCH OFFICES—126 Pine St., San Francisco, Cal.; 310 W. 65th St., New York City



30% Overload Does Not "Stop" This

BROWNING

Locomotive Crane

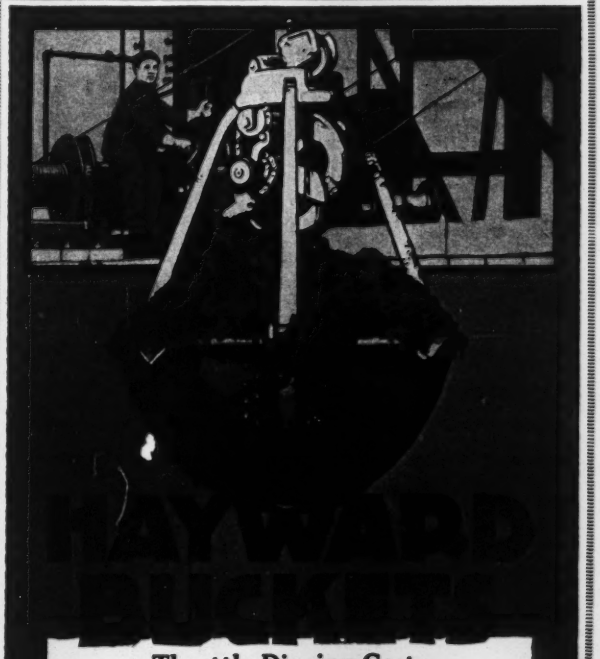
This Browning Crane, owned by the Tidewater Oil Co., New York, is equipped with a 55-foot boom, and was designed to lift 40,000 pounds at a radius of 20 feet. The photo shows it lifting an oil mixer weighing 50,000 pounds at a radius of 22 feet, an overload of over 30%.

This is not an isolated occurrence, as "Brownings" are doing these unusual stunts regularly.

The great reserve strength of the Browning Crane makes it the favorite with contractors, as they know that it will not fail in an emergency.

The Browning Company, Cleveland, Ohio

SALES OFFICES: New York Chicago Philadelphia San Francisco



Throttle Digging Costs

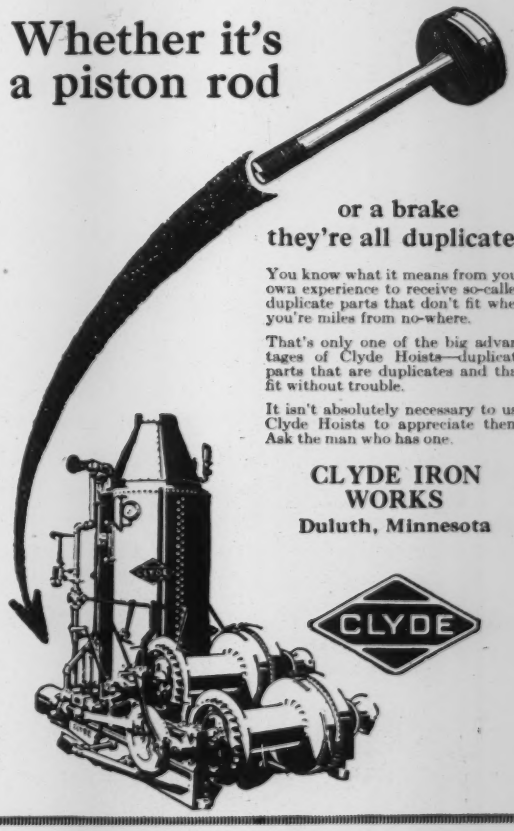
Both the man at the engine throttle and the man at the expense throttle know and appreciate the ability of Hayward Buckets to dig deep, dump clean, work fast and wear slow. The best proof of decreased costs lies in their increased use.

Write for Catalog 43.

THE HAYWARD CO. 50 Church St., New York

2285-Y

Whether it's a piston rod



or a brake they're all duplicates

You know what it means from your own experience to receive so-called duplicate parts that don't fit when you're miles from no-where.

That's only one of the big advantages of Clyde Hoists—duplicate parts that are duplicates and that fit without trouble.

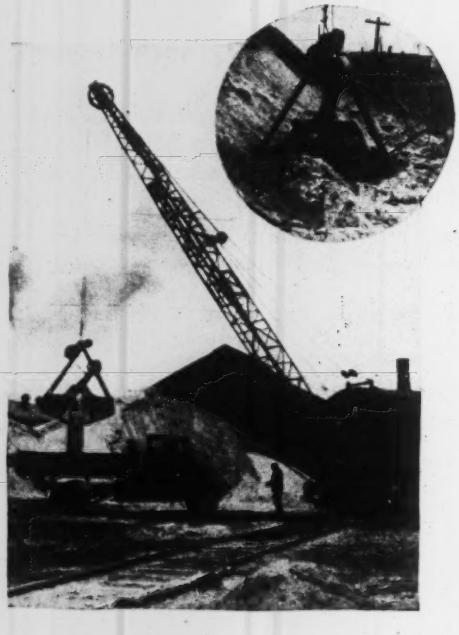
It isn't absolutely necessary to use Clyde Hoists to appreciate them. Ask the man who has one.

CLYDE IRON WORKS

Duluth, Minnesota

CLYDE

11 Years Old and Still Young



This Williams 1½-yd. Type "B" Bucket started to work for the Erie Sand & Gravel Co. at Erie, Pa., in 1906. The picture shows it on March 3, 1917. This company uses Williams Buckets exclusively.

Williams Bucket

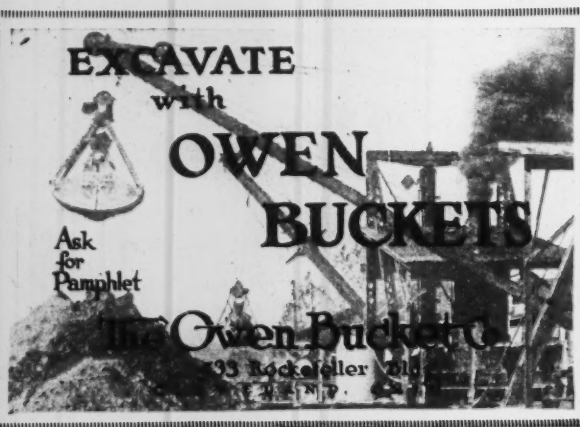
"Built to Dig and Last While Digging"

They live up to their name. They are built to give constant service. Built with large bearings and with well-guarded cables. They hold their alignment and stand the gaff in all kinds of digging and handling

Special types to suit vour work.

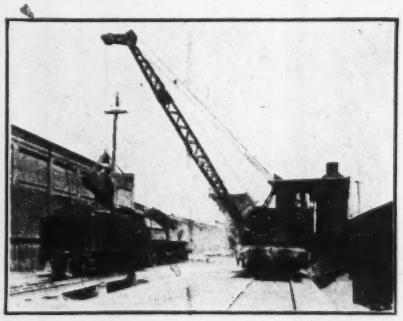
Write for the latest Williams Catalog.

The G. H. Williams Company
Erie, Penna.



——In difficult work the——

O. S. Locomotive Cranes and Buckets



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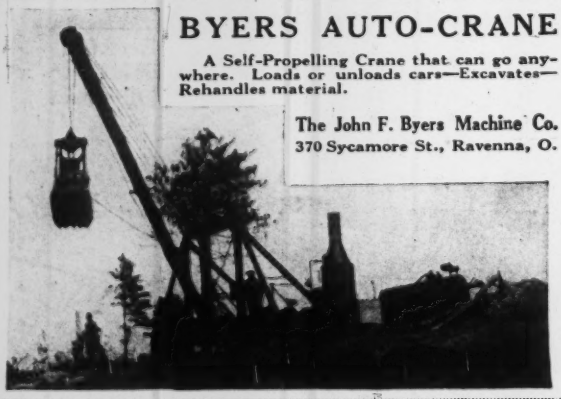
Correct Design
Right Material
Superior Fabrication

Orton & Steinbrenner Co.
CHICAGO, ILL



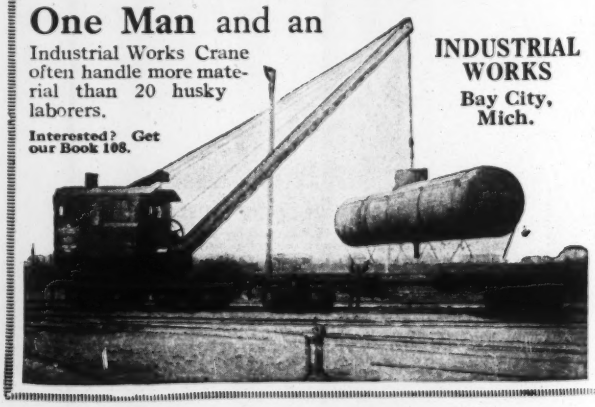
BYERS AUTO-CRANE

A Self-Propelling Crane that can go anywhere. Loads or unloads cars—Excavates—Rehandles material.

The John F. Byers Machine Co.
370 Sycamore St., Ravenna, O.

One Man and an Industrial Works Crane often handle more material than 20 husky laborers.

Interested? Get our Book 108.



INDUSTRIAL WORKS
Bay City, Mich.

Ready for a twelve-mile jaunt—

The above photograph shows the Monighan Excavator walking right off the car under its own power—no Cables or Ropes.

It's ready now for a twelve-mile jaunt to the job—twelve miles over rough roads and mud holes, but the Monighan can be depended upon to steadily step right along until it gets there.

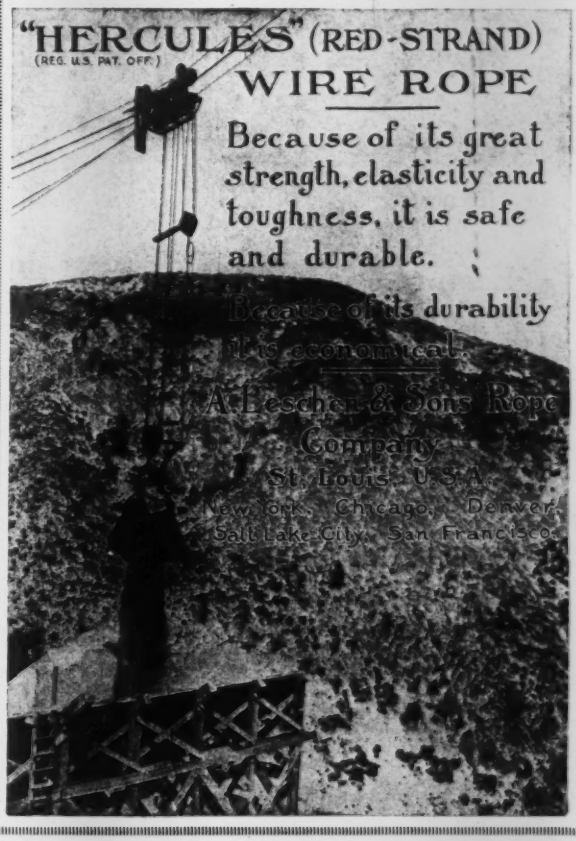
And when it gets on the job it will move a bigger yardage because there are **no delays due to traction**—no matter what the condition of the ground.

The Monighan will save you labor, save you planks—it will minimize delay—and save you trouble (lots of it).

It walks—it's easy to handle.

You should investigate.

Monighan Machine Co.
2024 Carroll Ave., Chicago, Ill.



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Our hand book will help you in ordering.

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The Standard Wire Rope
JOHN A. ROEBLING'S SONS CO.
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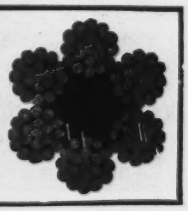

American Wire Rope

FOR elevators, dredges, lumbering, mining, oil-well drilling, suspension bridges, stump-pulling, cranes, derricks, ships' rigging and every other form of wire rope use.

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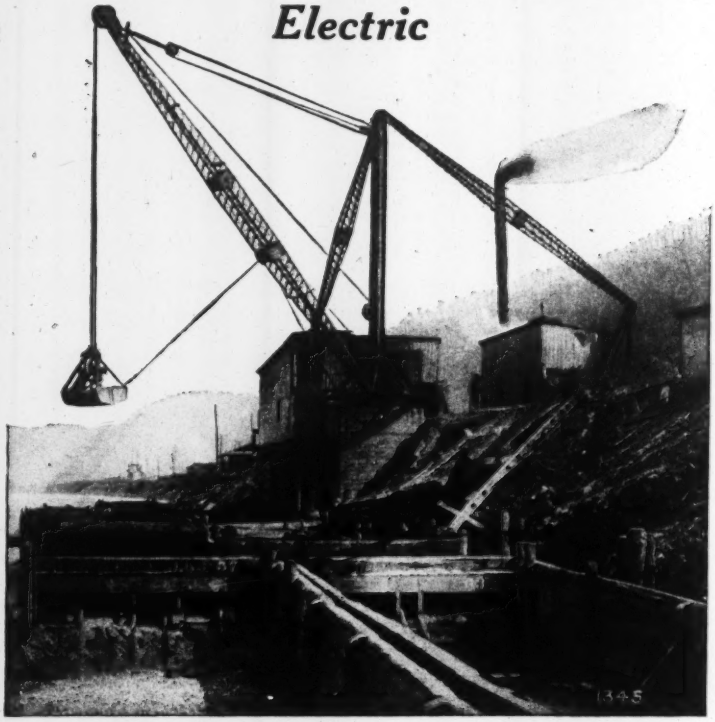
Steam ***Electric***

In contracting and in industrial work, capacity of the entire plant depends upon continuity of operation.

Where hoisting is one of a series of operations, the hoist governs the capacity of the entire plant.

Speed and reliability of the hoist are absolute necessities.

Lidgerwood Hoists combine speed with a strength in every detail that insures reliability in operation.



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Derricks—Cableways—Excavators

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Can you afford to use hand labor, in the face of conclusive proof that it costs 9 times more than it should? When a

BUCKEYE
Traction Ditcher

can displace from 100 to 200 men, and dig trench for 1-10th the cost—can you hesitate?

Facts and figures eliminate all guesswork. Contractors everywhere have produced digging results with the Buckeye which fully back up all claims. Get direct evidence—let us send you the names of users in your locality.

The Buckeye Traction Ditcher Co.
Findlay, Ohio

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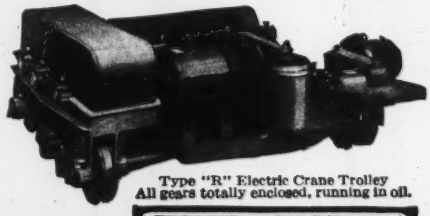

Type "R" Electric Crane Trolley
All gears totally enclosed, running in oil.

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Cranes of All Types

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Cranes and Hoists

Locomotive cranes, buckets, dragline excavators, crabs, winches, and concrete reinforcement. *Write for catalogs.*
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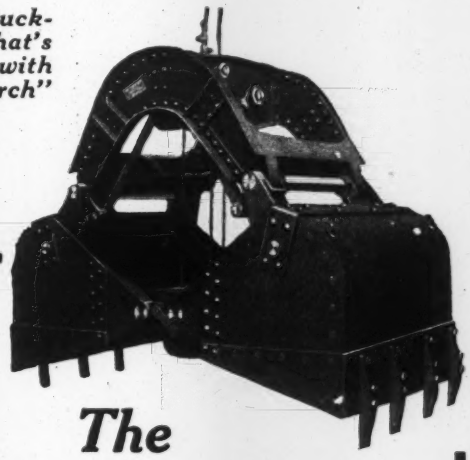
Cleveland, Ohio

OHIO
LOCOMOTIVE CRANES

OHIO LOCOMOTIVE CRANE CO.
MANSFIELD ST. BUCYRUS, OHIO

"The Bucket That's Built with an Arch"



The Buffalo Bucket

Let this steel arch yoke take the strains and shocks of your digging. Drive the bucket to the limit of its capacity—you will find no tendency to bending or failure in any part.

Sheaves of generous diameter and straight line reeving remove another prolific cause of digging trouble.

Write for the descriptive bulletin.

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Steam Shovels, Dredges, Draglines and Kindred Machinery

THE Delaware, Lackawanna & Western Railroad is not only a large user of Marion Shovels itself, but the contracting firms doing the bulk of its new construction work employ "Marions" also. Among these, The Hyde-McFarlin-Burke Co., New York, use the Model 28 shown here for

Filling, Grade-Straightening and Grade Reduction on the D., L. & W.

through sand, hard-pan and old ballast—some hard to dig, and some easy. Hyde-McFarlin-Burke own 7 shovels—5 are "Marions."

Repeat orders for "Marions" naturally follow the original purchase because "*Marions*" *are made to make good.* Write us about *your* digging problems; we will gladly help you. No obligation.

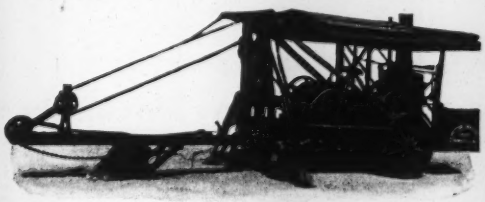
The Marion Steam Shovel Company, Marion, Ohio
Branches: Atlanta, Chicago, New York, Philadelphia, San Francisco, Seattle
213 **ESTABLISHED 1884**

KEYSTONE

Road Grader
Bank Dipper
Ditcher
Cellar Digger
Back Filler

5 in 1

Don't buy 40 tons of equipment if one *Keystone* 10-ton Traction Shovel will take care of all your work.



THE machine is sturdily built and will stand up, too, but it is unusually light, and will move about hard digging in cement gravel or old macadam; rapidly on its own power without danger of going through country bridges and culverts. Skimmer and Dipper Scoops hold one-half yard. Loads 1½ yard wagon in 1½ minutes. Average daily output 250 to 400 cubic yards. Has dragline ditcher scoop for trenches, cellar digging, back-filling, etc. Ditching capacity 150 to 300 cu.yd. per day. Excavates to a depth of 20 ft.

The eleven-foot horizontal crowding movement and powerful thrust make it more efficient than other machines for shallow grading in hard material.

Saves you money in first cost, operating and moving charge, and upkeep.

Write nearest office for catalog, prices and list of near-by owners.

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BEAVER FALLS, PA.

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Keystone Well Drilling Machines **Downie** Deep Well Pumps

STEAM SHOVELS

For Speedier Digging the PIONEER BACK-DUMP BUCKET

THE first consideration in an excavating outfit is—speed. The PIONEER dumps through a hinged door in the rear of the bucket. The whole heavy bucket does not have to swing down, as in other makes. No moving parts, except this rear door. Bucket may be dumped when it is almost resting on the screen, and it dumps in a direction away from the mast. Write for printed matter.

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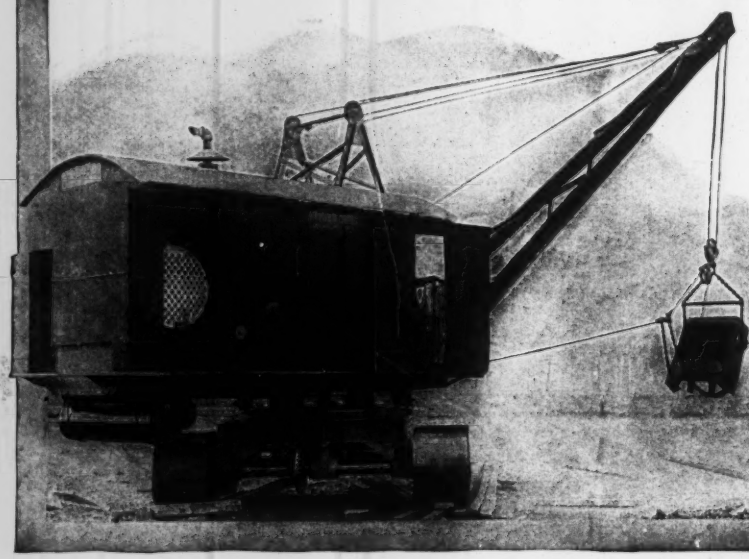
A P & H Drag Line Excavator

Built in sizes that will swing boom 40′ to 125′ length.

Buckets from ¾ yd. to 4½ yd.

Operated by steam, electricity or internal combustion engine power.

Propelled on power traction wheels, corduroys, skids, and rollers or trucks.



Write for Information
Drag Line Dept.

Pawling & Harnischfeger Co.
Milwaukee, Wis.
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Manufacturers of Back-Fillers, Power-Tampers, Trench Excavators and Traveling Cranes

"Principally a digger—then all the rest"

FOGARTY EXCAVATING BUCKET

On an entirely new principle, the bucket is attached directly to the boom. Weight of boom and bucket **help the closing line** in digging. Then the lifting line pulls, after the bucket is full. Write for Catalogue and full particulars.

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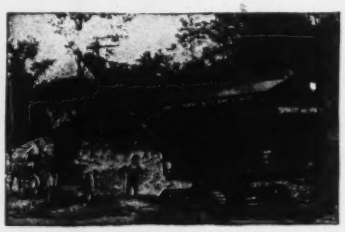
The American Steam Shovel



Strictly a Contractors' Shovel. Revolving Type. Handy to operate. Quick in accomplishment. **New catalog. Send for it.**

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Norton Self-Lowering Jacks are the Fastest Jacks Made

They lower the full load with absolute safety by pressing the button—you do not have to pump or crank them down as with other jacks.

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"Nothing to do but TURN"

All sizes from 7 ins. up

Save money on bridge work or other jobs where nuts have to be seated or removed, by using the

Lowell Reversible Ratchet Wrench

It encloses the nut on all sides and can be worked in small space.

It is **safe.** It is **sure.** It is **quick.**

Supplied in all lengths of handle and for all sizes of nuts.

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Its mechanical excellence and fitness for modern needs entitle it to the highest consideration.

If you are interested in the equitable and economical distribution of water, THE KING Disk Meter will appeal to you.

Its construction presents no experimental devices of undetermined value.

It is a sound and sensible embodiment of features which the unfailing test of time has qualified for existence.

Nearly 40 years of organized effort lie behind it.

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If you only knew the time saved

Built strong for rough usage,

you would use only the

FAVORITE reversible ratchet WRENCH

on nut turning.

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Water Meters

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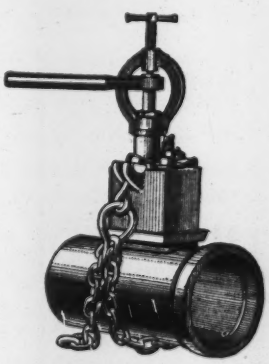
Easily Carried By One Man

This light, durable machine will be sent on approval for 30 days' trial. If not as represented, send it back.

Corporation Tapping Machine

Write for latest bulletins of this and other waterworks appliances.



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Mechanical Filtration Plants

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FOR TOWNS, CITIES AND FACTORIES

One of the Oldest
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The Reliance Irrigation Meter is of simple construction, low in cost, always accurate, easily read. There are no bearings under water, no clocks, no ink or pencil or paper. Registers by same method as ordinary house meter.

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RECORDING INSTRUMENTS
For Pressure, Temperature, Electricity, Motion, Humidity, Etc.
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Hydraulically, Electrically and Hand Operated Gate Valves and Sluice Gates
For Waterworks, Power Plants and Filtration Systems
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Some other reader may have just what you want—and he may be in the market for the items you wish to turn into cash.

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54

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American patents controlled by the owners, BARRAGES AUTOMATIQUES S.A., ZURICH, SWITZERLAND

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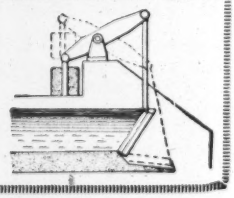
Eastern American Representative

Agents wanted in the Western States.

FOR THE CONTROL OF WATER LEVEL — MANY STYLES



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Pipe Line Problems

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Everything for the Pipe Line

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Standard Pattern

Brass globe, angle, cross, check and Y. Do not give out in service, nor require replacement. Will give years of service with but little attention or repair expense. The dependable, inexpensive Jenkins Disc takes the wear, besides making the valve perfectly tight. For steam use specify Jenkins No. 119 Disc; for cold water, Jenkins No. 93.

Catalogue No. 20 illustrates the complete line—Ask us to send you a copy.

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Valve Boxes Indicater Posts Air Valves

"RENSSELAER" VALVES

All Sizes All Pressures All Purposes

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Hydraulically and Electically Operated Valves and Sluice Gates
Valves Designed for all Kinds of Service.

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CHAPMAN VALVES

Do you realize that you can CONSULT US with assurance of EXPERT advice on waterworks problems? TRY IT

The Chapman Valve Mfg. Co.

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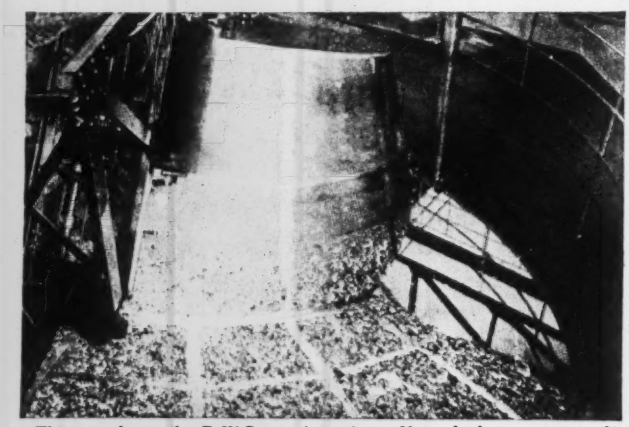
Branch Offices and Agents with Stock in Principal Cities.

Without offense, to locate the plant in the middle of a city—



This cut shows the R-W Screen in action. Note the large amount of screenings brought up from the sewage. These are removed above sewage level by revolving brushes. Write for bulletin.

ANSWER:

The Sanitation R-W Process

A single small house can contain the R-W Screen and revolving brushes that constitute the mechanism of this process. And the *results?* The screen revolves, bring up *fresh* sewage—non-disintegrated solids—which are promptly swept off for disposal, as desired. Daytona, Florida, solved this very problem in this manner.

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WATER FILTRATION AND SOFTENING PLANTS
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Water Works Engineers and Contractors
112 North Broad Street, Philadelphia
Also Manufacture
Welded Wrought Iron Pipe, Lined and Covered with Pure Cement and Having Lead Caulked Bell and Spigot Joints
The only noncorrosive pipe on the market good for any pressure

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Control the **High Pressure Fire Service in New York, Brooklyn, Baltimore, Jacksonville, San Francisco, Cleveland, Cincinnati.**
Pressure Regulating Valves for Water, Steam, Air.
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Riveted and Welded Steel Plate Construction
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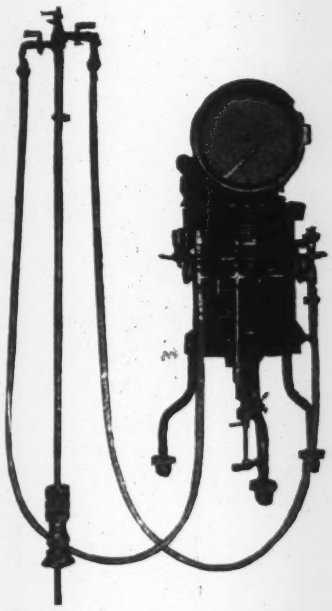
Mr. Manager, What About Your Water Waste?



Pitot Tube Waste Detector

You cannot be sure that everything has been done to eliminate preventable water waste without a comprehensible survey of the losses in your plant and distribution system.

Leading water works have decreased their losses from 10 to 30 per cent. by the use of the

SIMPLEX WASTE DETECTOR

This simple, portable instrument operates in conjunction with Pitot tube, which can be inserted at strategic points to measure the leakage losses in the various sections of the piping system.

Flows down to one-half a foot per second are accurately recorded.

Ask us to send Bulletins

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"You fellows give too much for the money"

That's the report our Chicago representative forwards from the Superintendent of a Water Department that, for the past several years, has had an installation of

"W & T" Chlorine Apparatus For Purifying Water

The original "W & T" Apparatus had given such satisfactory service since installation that this Superintendent would not consider changing to a more modern type. "W & T" Equipment gives longer service because it is designed and built *by experts in the control of chlorine.* It is made of materials that will last. We *could* make a chlorinator that would run for a few months without using silver, platinum, tungsten, monel metal, etc.—but we'd only sell you *once.* No one who has ever purchased a "W & T" equipment has ever purchased any other make subsequently. **Write for Technical Publication No. 1R.**

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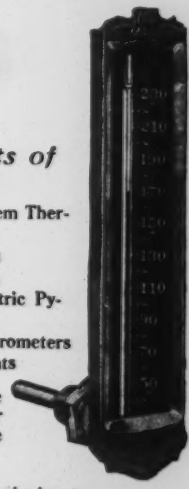
Write This On Your Order and Be Sure of Satisfaction

Tycos

It Stands for Temperature Instruments of the Highest Quality



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Mercury Vacuum and Absolute Pressure Gauges	Thermo-Electric Pyrometers
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Let us work with you to secure the results you should have. Over half a century of *Taylor* experience will thus be at your disposal.

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There's a Tycos or Taylor Thermometer for Every Purpose

A big pipe doing a big work on the desert.

200 Cubic Feet of Water Per Second Go Through This Pipe

For years to come it will stand up as NATIONAL QUALITY pipe and tanks always do. Never bursts from freezing.

Douglas Fir and Redwood are ideal materials from an efficiency standpoint. Cheaper too.

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for hydro-electric plant.
Maximum head nearly 300 feet.

The staves are Washington yellow fir, the best timber that can be obtained for this purpose on account of its structural strength and durability.

We furnish the material and construct continuous wooden stave pipe complete in place in all sizes up to 20 feet in diameter.

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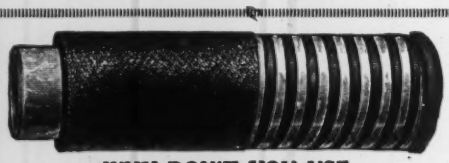

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Wyckoff Wood Pipe

OTHERS DO

Over 1000 miles of Wyckoff Wood Pipe have been installed in the last three years. It can be furnished and laid at half the cost of cast iron.

IT LASTS AS LONG.

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Wood Stave Pipe—The Wholesome Medium for Conveying Water

Wood pipe will not contaminate the water passing through it nor will it become corroded by the liquid.

Our experience on many installations is at you rservice. Address the Engineering Department

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Mfrs. of Machine Wire-Wound and Continuous Stave Wood Pipe
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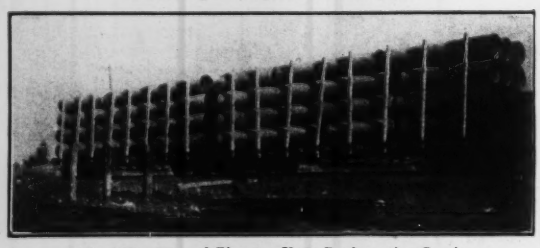
Wire Wound and Continuous Stave Wood Pipe for IRRIGATION and Water Systems. Asbestos and tin-lined Cedar Casings for insulating underground steam pipes.



30-in. Wire Wound Pipe for U. S. Reclamation Service

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We build machine banded and with individual rods and lugs stave water pipe, from 2" up to 48" for various pressures. Write for our catalogue. It tells you all.

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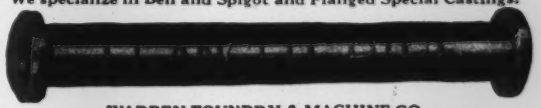

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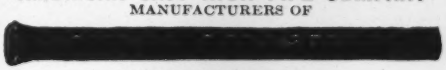

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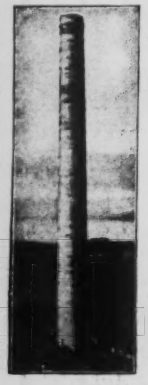

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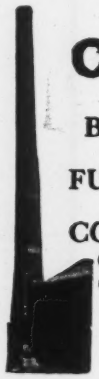

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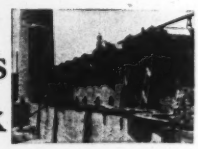

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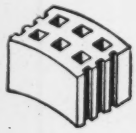

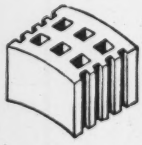

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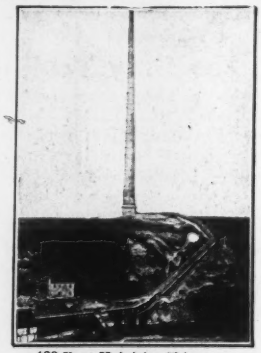

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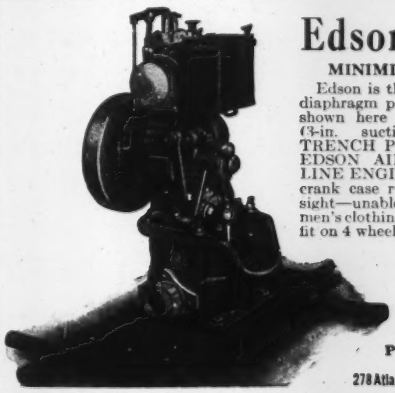

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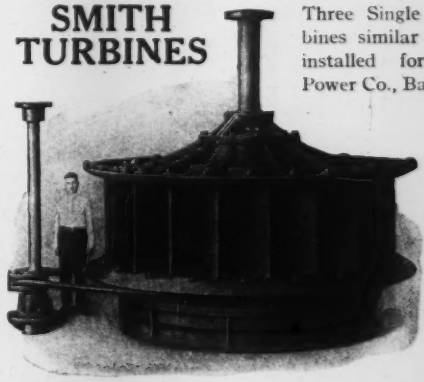

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They excel in efficiency and endurance. Built to operate against all heads up to 125 feet. Perfectly balanced laterally. No end thrust. Not high in price.

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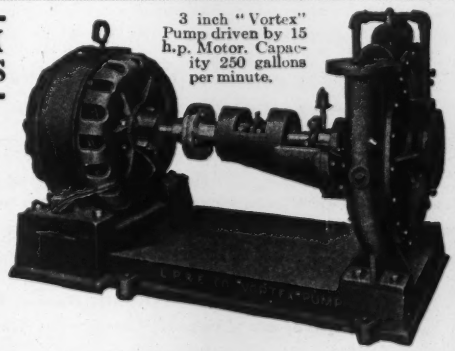

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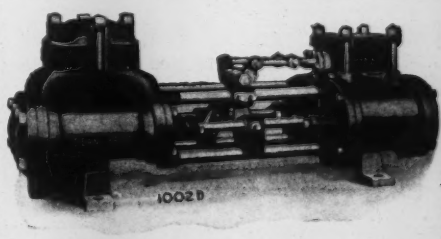

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.89	16 ft.	200	10,500	277.75	87.51
.80	16 ft.	200	9730	267.20	90.70
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.70	16 ft.	200	8705	230.00	87.35
.60	16 ft.	200	7525	182.40	80.30

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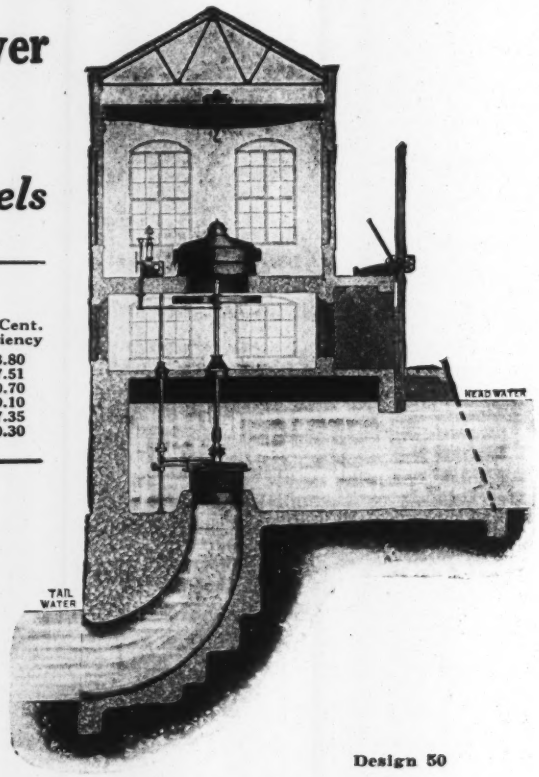

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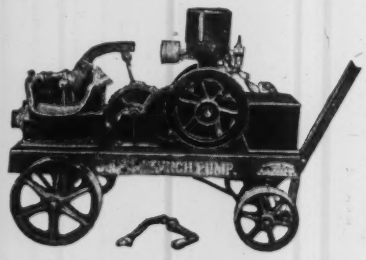

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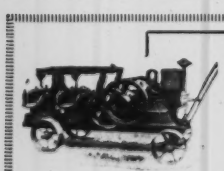

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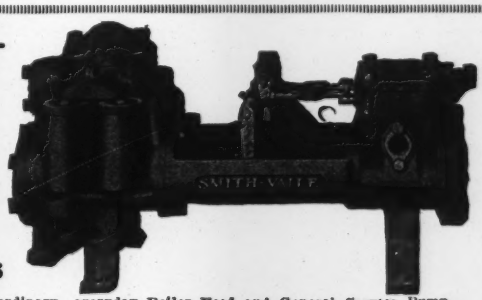

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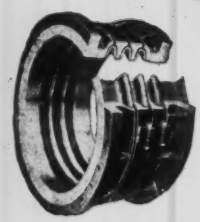

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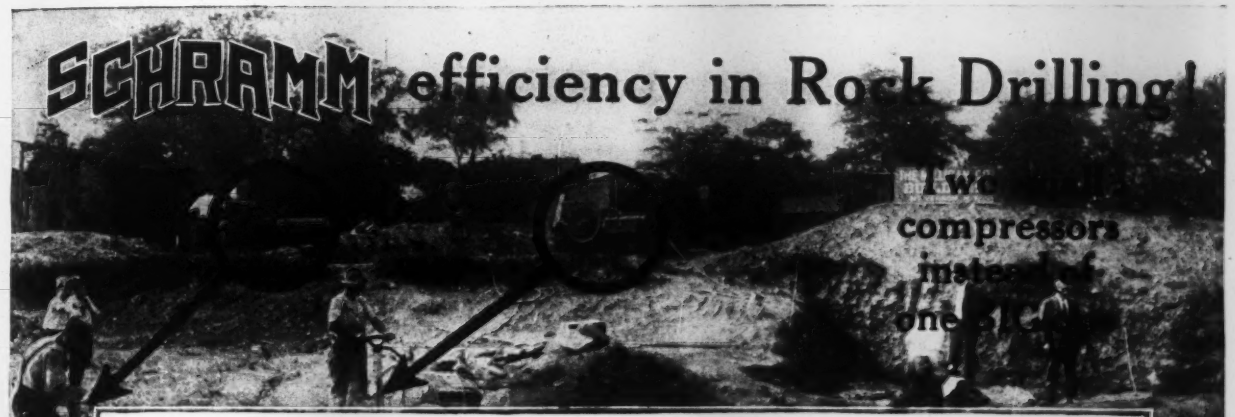

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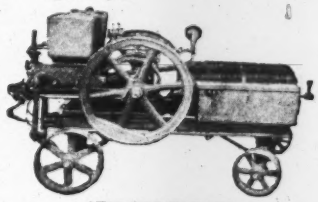

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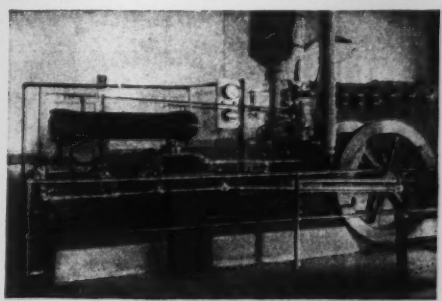
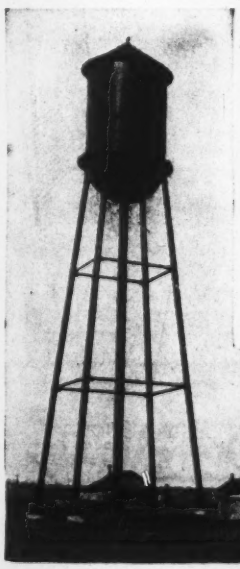


Sullivan Air Lift Installation, Municipal Water Works, Buhl, Minnesota. The air lift raises the water into a reservoir, from which it is forced into the standpipe or the mains by centrifugal pumps. The compressor is a Sullivan "WB2" two-stage machine.



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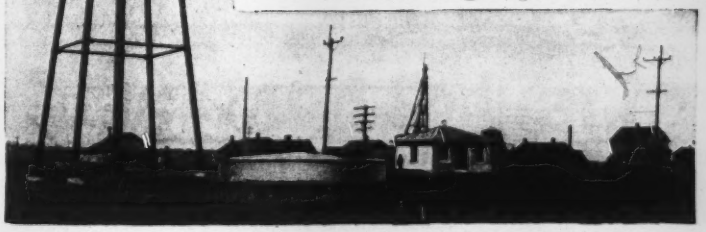

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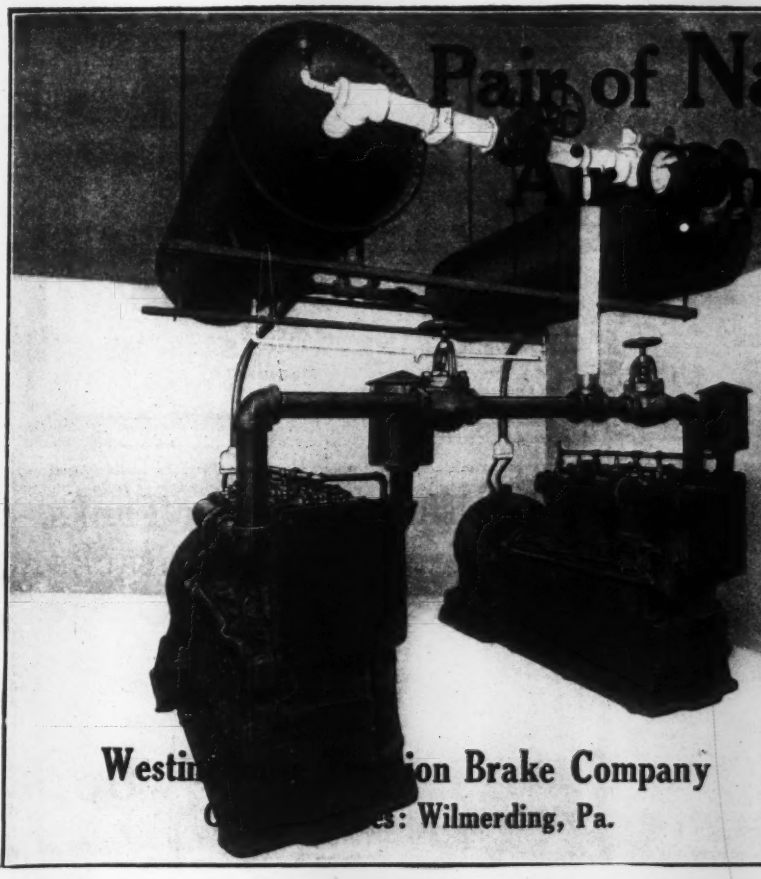

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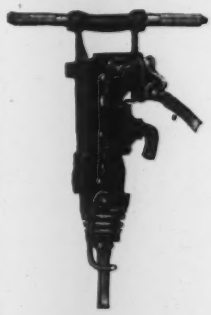

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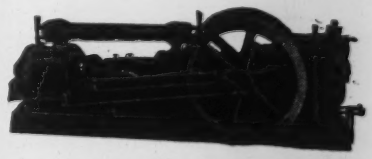

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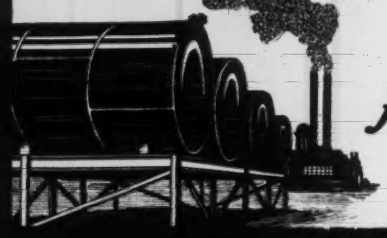

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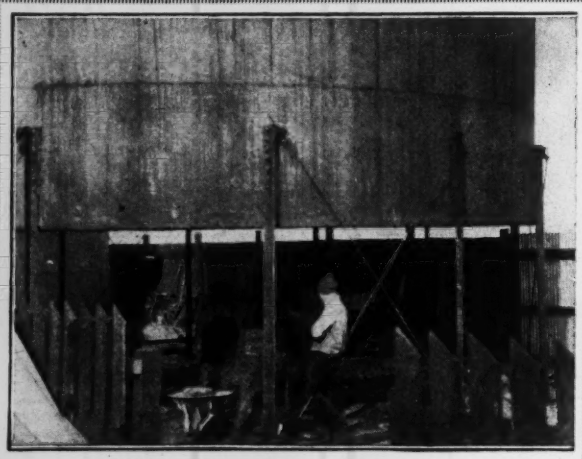

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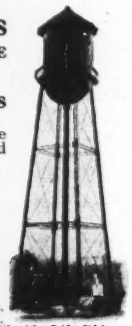

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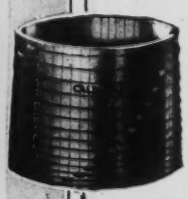

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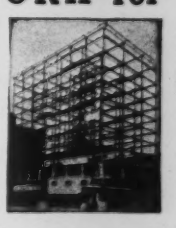

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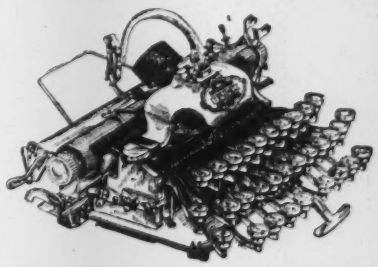

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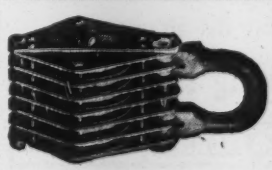

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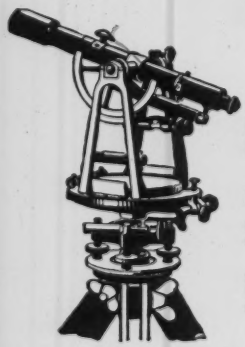

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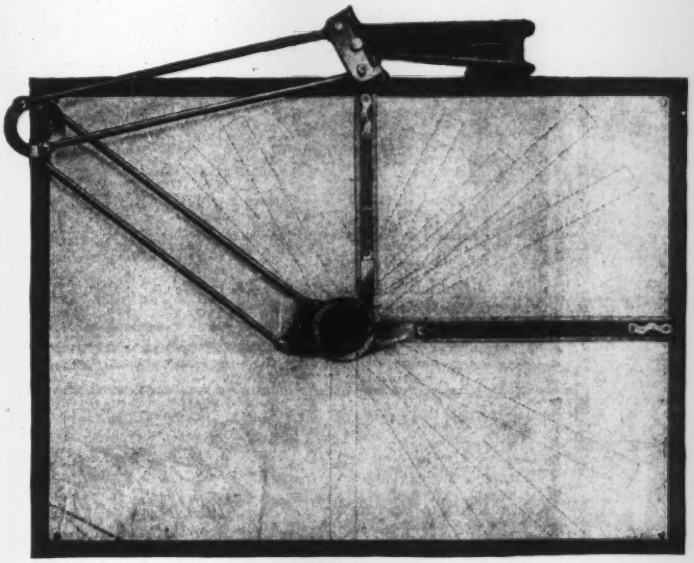

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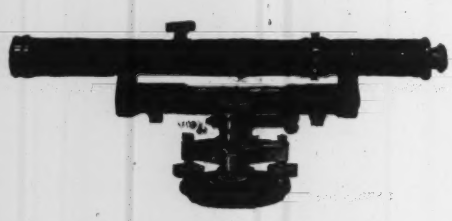

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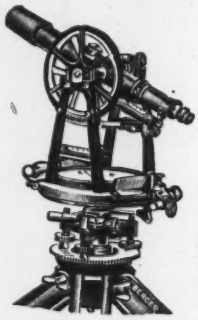

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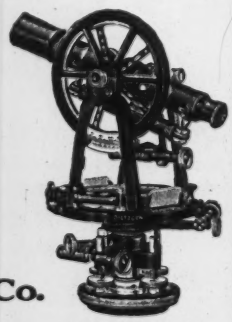

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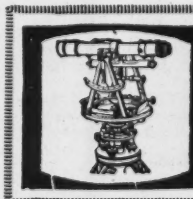

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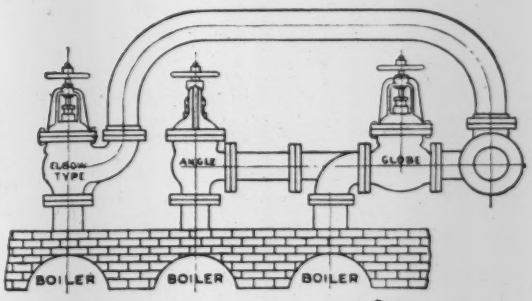
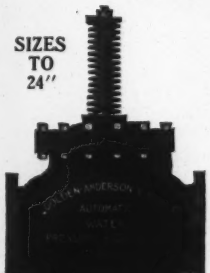
Vitally Important. "Automatic" Test Feature Valves may be closed or tested any time. Insures positive safety.



"Hosts of References"

SIZES TO 24"



Automatic-Cushioned Water Pressure Reducing Valves

Reduce Automatically, High Pressure to Positive Low Pressure

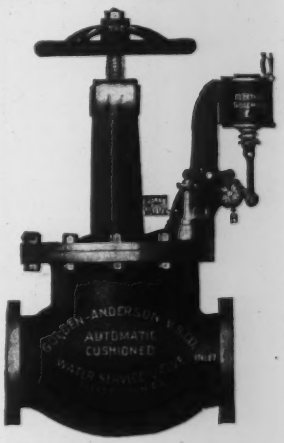
FEATURES

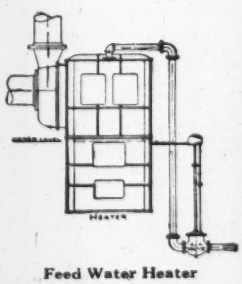
1. Safe Operating Piston makes it impossible for high pressure to enter into low pressure service. Makes accidents impossible.
2. Thoroughly cushioned — no hammering, chattering or sticking.
3. No auxiliary valves or small by-pass —Reliable and uninterrupted service.
4. Heavy throughout — Practically indestructible.
5. Only one adjustment—on the outside. Valve always accessible.

CUSHIONED WATER SERVICE VALVES "FOR FIRE SERVICE"

Electrically Operated From Distant Points

No waste of current as it is only on solenoid a few seconds on either opening or closing of valve.
May be closed and opened from remote points electrically; also hand operated.
Air and water cushioned. No metal-to-metal seats. Virtually indestructible.
Electric Solenoid Connected to Direct or Alternating Current for Continuous or Intermittent Service.





Feed Water Heater

Golden-Anderson Patent Automatic Cushioned Controlling Float Valves

Especially Adapted for Maintaining Uniform Water Level in Feed Water Heaters, Tanks, Reservoirs, Vats, etc.

No Water Wastes—Economic—Durable—Reliable—Air and Water Cushioned—Virtually Indestructible.

Patented Cushioned Automatic Controlling Altitude Valves

For Automatically Maintaining Uniform Stage of Water in Tank, Reservoir or Stand-pipes. Doing Away with the Annoyance of Floats or Fixtures, Inside or Outside. Especially Adapted for Water Works and Railroads. "Three Ways of Closing These Valves."
1st—Automatically by water.
2nd—By Electricity, if desired.
3rd—By Hand.

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USERS OF CEMENT IN BULK ENDORSE THIS METHOD OF SHIPMENT AS PRACTICAL, ECONOMICAL AND EFFICIENT.

LABOR IS SAVED. Labor used in untying, emptying, shaking, sorting counting and bundling sacks for return shipment is eliminated.

KNOWLEDGE OF THE ADVANTAGES OF BULK SHIPMENTS leads to its use. Shipping cement in packages regardless of the nature of the job is only a habit.

COSTS ARE REDUCED. There is less outlay for material. Package costs and charges are eliminated. There is no freight to pay on returned sacks.

ECONOMIES ARE EFFECTED. No sacks are lost or stolen. No clerical work to keep track of sacks is necessary. Sack storage is done away with.

MONEY INVESTED YIELDS MORE RETURN. More concrete can be placed; accordingly all equipment earns more money.

EFFICIENCY IS INCREASED. With the same working force more concrete can be mixed and placed using bulk cement than when using sacked cement.

NO SACK INVESTMENT IS NECESSARY. It therefore costs less to finance the job and all money invested is working. Sack investments yield no return.

THIRTY YEARS' SUCCESSFUL USE proves that bulk cement is not an experiment. Its use can be adapted to almost any work of appreciable size.

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Furnaces, Garbage and Refuse
Bartlett & Snow Co.
Jeffrey Mfg. Co.
Power Specialty Co.

Furnaces, Gas
American Gas Furnace Co.

Furnaces, Lead
(See Pipe Line Supplies)

Furnace Smelting and Tempering
American Gas Furnace Co.

Gages, Recording
Bristol Co.
Sanborn Co.

Garbage Crematories
(See Furnaces, Garbage and Refuse)

Gas Holders
Des Moines Bridge & Iron Co.
Graver Tank Works, Wm. B.
Petroleum Iron Works
Riter-Conley Co.
Wood & Co., R. D.

Gas Producers
Improved Equipment Co.
Riter-Conley Co.
Wood & Co., R. D.
Worthington Pump & Machy. Corp.

Gas Works Construction
American Pipe & Cons. Co.
Riter-Conley Co.

Gaskets
(See also Steam Specialties)
Badger & Sons Co., E. B.

Gates and Valves
Coffin Valve Co.
Coldwell-Wilcox Co.
Jenkins Bros.
Ross Valve Mfg. Co.
Wood & Co., R. D.

Gates, Ore Bin
Insley Mfg. Co.
Traylor Eng'g & Mfg. Co.

Gears
Chain Belt Co.
De Laval Steam Turbine Co.
Sturtevant Co., B. F.

Glass, Fireproof
Mississippi Wire Glass Co.

Governors, Water Wheel
Pelton Water Wheel Co.
Woodward Governor Co.

Graders, Elevating
Austin Mfg. Co.

Equipment and Materials Sold by Advertisers in This Issue

Pile On Your Overload!

Big husky equipment that walks away with an extra ton or more of overload without a quiver—that's the WATSON TRACTORTRUCK.

If you pile its heavy platform body with six tons instead of the "capacity" five tons, there's no damage and no danger.

The WATSON TRACTORTRUCK is built to *stand* overloads.

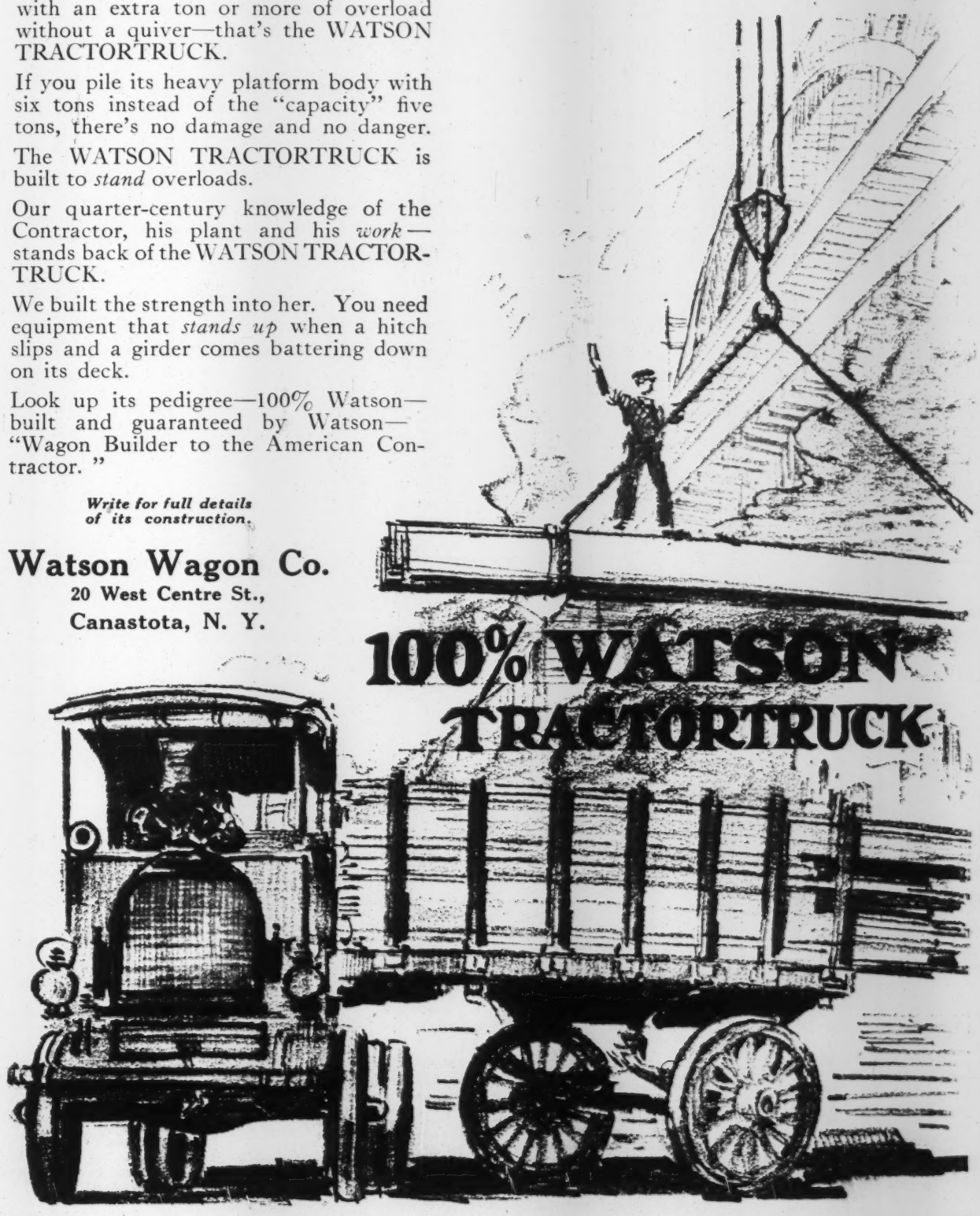
Our quarter-century knowledge of the Contractor, his plant and his *work*—stands back of the WATSON TRACTOR-TRUCK.

We built the strength into her. You need equipment that *stands up* when a hitch slips and a girder comes battering down on its deck.

Look up its pedigree—100% Watson—built and guaranteed by Watson—"Wagon Builder to the American Contractor."

Write for full details of its construction.

Watson Wagon Co.
20 West Centre St.,
Canastota, N. Y.



Austin Western Rd. Mchy. Co.
Western Wheeled Scraper Co.

Granite
Rockport Granite Co.

Graphite
Dixon Crucible Co., Jos.

Grating, Subway
Irving Iron Works

Gravel Washing Plants
Dull Co., Raymond W.

Grinding Machinery
(See Crushers and Pulverizers)

Hammers, Pile Driving
(See Pile Driving Machinery)

Hammers, Pneumatic
(See Tools, Pneumatic)

Headgates
Coffin Valve Co.

Heaters, Feet Water
Alberger Pump & Condenser Co.
Platt Iron Works
Worthington Pump & Mchry. Corp.

Heating Machines for Smelting
American Gas Furnace Co.

Hoisting Drums
Hayward Co.

Hoists, Chain
Yale & Towne Mfg. Co.

Hoists, Concrete
Dake Engine Co.
Insley Mfg. Co.
Lakewood Eng'g Co.
Ransome Concrete Machy. Co.

Hoists, Electric, Gasoline and Steam
Buffalo Contractors Plant Corp.
Byers Mach. Co., J. F.
Clyde Iron Works
Dobbie Foundry & Mach. Co.
Flory Mfg. Co., S.
General Electric Co.
Lakewood Engineering Co.
Lansing-Co.
Lidgerwood Mfg. Co.
Marsh-Capron Mfg. Co
Minneapolis Stl. & Mchry. Co.
Mundy Hoisting Engine Co., J. S.
O. K. Clutch & Machy. Co.
Orton & Steinbrenner Co.
Pawling & Harnischfeger Co.
Ransome Concrete Machy. Co.
Smith Co., T. L.
Standard Scale & Supply Co.
Thomas Elevator Co.

Hoists, Gates
Whiting Fdry. Equipment Co.

Hoists, Hand
Buffalo Contractors Plant, Corp.
Thomas Elevator Co.

Hoists, Headgate
Coffin Valve Co.
Coldwell-Wilcox Co.

Hoists, Pneumatic
Dake Engine Co.
Ingersoll-Rand Co.

Hoists, Rock
Schramm & Son, Chris. D.

Hooks, Hoist and Wire Ropes
American Steel & Wire Co.
Leschen & Sons Rope Co., A.
Wright Wire Co.

Hose
Edson Mfg. Co.

Hose, Metallic
American Metal Hose Co.
Penn. Flexible Metallic Tubing Co.

Hydrants
Darling Pump Mfg. Co.
Eddy Valve Co.
Fox & Co., John
Norwood Engineering Co.
Pacific Tank & Pipe Co.
Pittsburgh Filter Mfg. Co.
Rensselaer Valve Co.
Ross Valve Mfg. Co.
Smith Mfg. Co., A. P.
Wood Co., R. D.

Hydraulic Machinery
Watson-Stillman Co.

Indicator Posts
Builders Iron Foundry
Darling Pump Mfg. Co.

Injectors
Jenkins Bros.

Inserts, Concrete
Medina Machine Co.
Security Insert Co.
Trussed Con. Steel Co.

Equipment and Materials Sold by Advertisers in This Issue

Inspecting
(See Directory of Engineers)

Instruments, Engineers'
(See Engineers' and Draftsmen's Instruments)

Iron
Jeffrey Mfg. Co.

Ironwork, Architectural and Ornamental
(See also Structural Steel)
Berlin Construction Co.
Boston Bridge Works
Christopher & Simpson Iron Works
Minneapolis Steel & Mch. Co.
Phoenix Bridge Co.
Wisconsin Bridge & Iron Co.

Jacks
McKiernan-Terry Drill Co.
Norton, Inc., A. C.

Joint Filler, Paving
Barber Asphalt Paving Co.
Barrett Co., The
Carey Co., Philip
Standard Oil Co. of N. Y.
Waring Underwood Co., The

Joints, Expansion, Copper
Badger & Sons, E. B.

Joints, Expansion, Paving
Baker Co., R. D.
Barrett Co., The
Carey Co., Philip
Trussed Concrete Steel Co.
Waring Underwood Co., The

Joints, Flexible
Coldwell-Wilcox Co.
Crane Co.

Kettles, Melting
(See Asphalt Plants and Tools; also Pipe Line Supplies)

Kilns, Drying
Riter-Conley Co.
Traylor Engr. & Mfg. Co.
Vulcan Iron Works, Wilkes-Barre

Kilns, Lime
Improved Equipment Co.
Riter-Conley Co.
Traylor Engr. & Mfg. Co.
Vulcan Iron Works, Wilkes-Barre
Worthington Pump & Mchry. Corp.

Laboratories
(See Testing Laboratories)

Lamp Posts
Fox & Co., John

Lamps, Arc and Incandescent
General Electric Co.

Lath, Metal
Consolidated Expanded Metal Cos.
General Fireproofing Co
North Western Expanded Metal Co.
Trussed Concrete Steel Co.

Lead Pencils
(See also Engineers' and Draftsmen's Instruments and Supplies)
Dixon Crucible Co.

Leadite
Leadite Co., Inc.

Lights, Portable
Carbic Mfg. Co.
Milburn Co., Alexander F.

Lime, Hydrated
Hydrated Lime Bureau

Loaders, Wagon
Bonney Supply Co.
Gifford-Wood Co.
Haiss Mfg. Co., Inc., Geo.
Jeffrey Mfg. Co.

Locomotives
American Locomotive Co.
Bell Locomotive Works, Inc.
Fate Co., J. D.
General Electric Co.
Goodman Mfg. Co.
Jeffrey Mfg. Co.
Porter Co., H. K.
Vulcan Iron Works, Wilkes-Barre,
Westinghouse Electric & Mfg. Co.

Locomotives, Electric
American Locomotive Co.
Bell Locomotive Works, Inc.
General Electric Co.
Goodman Mfg. Co.
Westinghouse Electric & Mfg. Co.

Locomotives, Gasoline
Bell Locomotive Works, Inc.
Fate Co., J. D.
Ridgway, J. A.

Locomotives, Industrial
American Locomotive Co.
Bell Locomotive Works, Inc.
Fate Co., J. D.
Jeffrey Mfg. Co.
Porter Co., H. K.
Ridgway, J. A.
Vulcan Iron Works, Wilkes-Barre,

Locomotives, Steam
American Locomotive Co.
Bell Locomotive Works, Inc.
Porter Co., H. K.
Vulcan Iron Works, Wilkes-Barre,

Logging Outfits
Clyde Iron Works
Lidgerwood Mfg. Co.
Parsons Co., The

Lubricants
Dixon Crucible Co., Jos.
Greene, Tweed & Co.
Texas Company, The

Lumber
Bowers Co., S. P.

Machinery and Equipment, Second-Hand
(See also advts. in Searchlight Section)
Buffalo Contractors Pl't Corp.

Machinery, Steam
Thew Automatic Shovel Co.

Manganese, Bronze
American Manganese Bronze Co.

Manhole Covers
(See also Castings, Iron)
Bissell Co., F.
Fox & Co., John
Lynchburg Foundry Co.
Sessions Fdry. Co.

Marine Hardware and Equipment
Boston & Lockport Blk. Co.

Mechanical Rubber Goods
Jenkins Bros.

Metaline
Metaline Co., The

Metallic Doors and Sash
(See Window Frames, Fireproof)

Metal Lath
Berger Mfg Co.
Mitchell-Tappen Co.
Witherow Steel Co.

Metal, Lumber
Berger Mfg Co.

Metals, Perforated
Chicago Perforating Co.

Meter Box Covers
Buffalo Meter Co.
Builders Iron Foundry
Cast Iron Pipe Publ'y Bureau
Ford Meter Box Co.
Lynchburg Fdry. Co.
Pittsburgh Meter Co.
U. S. C. I. Pipe & Fdry. Co.

Meter Boxes
Ford Meter Box Co.

Meter Provers
Builders Iron Foundry
Hersey Mfg. Co.
Pittsburgh Meter Co.

Meters, Current
Ritchie & Sons, E. S.
Gurley, W. & L. E.

Meter Testing Machines
Ford Meter Box Co.

Meters, Irrigation
Hydrometric Co.

Meters, Water, Oil and Gas
Buffalo Meter Co.
Builders Iron Foundry
General Electric Co.
Hersey Mfg. Co.
Neptune Meter Co.
Pittsburgh Meter Co.
Ritchie & Sons, E. S.
Simplex Valve & Meter Co.
Tompson Meter Co.
Union Water Meter Co.
Worthington Pump & Mchry. Co.

Mining Machinery
Allis-Chalmers Mfg. Co.
Ingersoll-Rand Co.
McKiernan-Terry Drill Co.
Sullivan Mchry. Co.
Thew Auto. Shovel Co.
Traylor Engr. & Mfg. Co.
Worthington Pump & Machy. Corp.

Mixers, Asphalt
Marsh-Capron Mfg. Co.
Ransome Concrete Machy. Co.
Smith Co., T. L.
Worthington Pump & Mchry. Corp.

Mixers, Cement and Concrete
American Cement Machine Co.
Automatic Concrete Mixer Co.
Bond Co., Harold L.
Chain Belt Co.
Concrete Mixing & Placing Co.
Eureka Machine Co.
Foote Concrete Mchry. Co.
Kent Machine Co.
Knickerbocker Co.
Lansing-Co.
Lakewood Eng'g Co.
Marsh-Capron Mfg. Co.
Municipal Eng'g & Contr. Co.
Northwestern Steel & Iron Works
Pneumatic Placing Co.
Ransome Concrete Machy. Co.
Sampson, G. H.
Smith Co., T. L.
Standard Scale & Supply Co.
Waterloo Cement Mchry. Co.
Worthington Pump & Mchry. Corp.

Mixers, Grout
Ransome Concrete & Mchry. Co.

Mixers, Mortar
American Cement Machine Co.
C. H & E. Co.
Chain Belt Co.
Eureka Machine Co.
Kent Machine Co.
Knickerbocker Co.
Lakewood Eng'g Co.
Lansing-Co.
Marsh-Capron Mfg. Co.
Municipal Eng'g & Contr. Co.
Northwestern Steel & Iron Works
Ransome Concrete Machy. Co.
Smith Co., T. L.
Standard Scale & Supply Co.
Waterloo Cement Mchry. Corp.

Molds, Pipe and Culvert
Blaw Steel Constr. Co.
Foote Concrete Machy. Co.

Motors, Electric
Bissell Co., F.
General Electric Co.

Motor Trucks
International Motor Truck Co.
Kissel Motor Car Co.
Service Motor Truck Co.
Smith Motor Truck Corp.
U. S. Motor Truck Co.
Watson Wagon Co.

Nails, Wire and Cut
American Steel & Wire Co.

Netting, Wire
American Steel & Wire Co.

Nozzles, Spray and Aërating
Morse & Son, A. & J.

Nuts, Clevis
Merrill Bros.

Oil, Lubricating
Texas Company, The

Oil, Road
(See Road Oils)

Overhead Tramrail Systems
Brown Hoisting Mchry. Co.

Packing
Jenkins Bros.

Packing, Water-Pipe
Greene, Tweed & Co.
Leadite Co., Inc.

Paints
Trussed Con. Laboratories

Paints and Metal Coatings
Barrett Co., The
Corrugated Bar Co.
Dixon Crucible Co., Jos.
Maritimo Coating Corp.
Minwax Co., Inc.
Toch Bros.
Trussed Con. Laboratories

Paints, Asphalt
Barber Asphalt Paving Co.

Paints, Steel Protective
(See Paints and Metal Coatings)

Paper, Drafting and Tracing
Cardinell-Vinvent Co.
St. George, Henry V.

GOODRICH

TRUCK TIRES

Long Mileage;
Freedom From Trouble;
Backed by the Biggest
System of Service Stations
in the United States

Look for the Sign of Goodrich Service

EVERY important trucking center has its GOODRICH Service Station, amply stocked with truck tires of all sizes and equipped for their prompt removal and application.

Good Intentions do not produce Good Service. Size Counts.

This unparalleled organization maintained by the World's Largest Rubber Factory is at your command.

GOODRICH Service means less "time-out" for your trucks.

GOODRICH Truck Tires keep your trucks on the job.

THE B.F. GOODRICH COMPANY

AKRON, OHIO

TRADE MARK

Pavements
Amies Road Co.
Barber Asphalt Paving Co.
Barrett Co., The
Bito Slag Paving Co.
Dunn Wire-Cut Lug Brick Co.
National Paving Brick Mfrs. Assn.
Republic Creosoting Co.
Warren Bros. Co.

Paving Blocks, Granite
Jennison-Wright Co.
Leopold, J. E.
Rockport Granite Co.

Paving Blocks, Wood
American Creosoting Co.
Barber Asphalt Paving Co.
Barrett Co., The
Republic Creosoting Co.
South. Wood Preserv. Co.
Wyckoff Pipe & Creo. Co.

Penstocks
(See Steel Plate Construction; also Pipe Riveted Steel; also Pipe Wood)

Pile Bands
Weldless Pile Band Co.

Pile Drivers
McKiernan-Terry Drill Co.

Pile Driving
Rhodes & Manvel, Inc.

Pile Driving Machinery
Buffalo Contractors Plant Corp.
Clyde Iron Works
Edson Mfg. Co.
Flory Mfg. Co., S.
Industrial Works
Lidgerwood Mfg. Co.
National Hoisting Engine Co.
Union Iron Works
Vulcan Iron Works

Pile, Shoes
Janney-Steinmetz Co.
Vulcan Iron Works, Chicago

Piles, Concrete
Foundation Co.
MacArthur Conc. P. & F. Co.
Raymond Con. Pile Co.
Smith, Hauser & MacIsaac, Inc.
Underpinning & Found. Co.

Piles, Creosoted
Barber Asphalt Paving Co.
Republic Creosoting Co.
Underpinning & Found. Co.
Wyckoff Pipe & Creo. Co.

Piles, Wood
Berlin Mills Co.
Bowers Co., S. P.
Rhodes & Manvel, Inc.

Piling
Jennison-Wright Co.

Piling, Concrete
Cranford Constr. Co.

Piling, Interlocking Steel
Carnegie Steel Co.
Lackawanna Steel Co.
Mitchell-Tappen Co.
Underpinning Foundation Co.

Pipe Bends
East Jersey Pipe Co.

Pipe, Cast-Iron
American Cast Iron Pipe Co.
Cast Iron Pipe Pub'ly Bureau
Central Foundry Co.
Fox & Co., John
Lynchburg Fdry. Co.
Standard C. I. P. & Fdry. Co.
U. S. C. I. Pipe & Fdry. Co.
Warren Fdry. & Mach. Co.
Wood & Co., R. D.

Pipe Culverts
(See Culverts)

Pipe, Dredge
Machold & Riddell

Pipe Fittings
American Spiral Pipe Works
Lynchburg Foundry Co.
Warren Fdry. & Mach. Co.

Pipe, Flanged
Warren Fdry. & Mach. Co.

Pipe, Lap Welded
American Spiral Pipe Works

Pipe Line Supplies
Union Iron Works

Pipe, Lock Bar
East Jersey Pipe Corp.

Pipe, Reinforced Concrete
Lock Joint Pipe Co.
Trussed Con. Steel Co.

Equipment and Materials Sold by Advertisers in This Issue

Pipe, Riveted Steel
American Bridge Co.
Chicago Bridge & Iron Works
Des Moines Bridge & Iron Co.
East Jersey Pipe Corp.
Mitchell-Tappen Co.
Pittsburgh-Des Moines Stl. Co.
Riter-Conley Co.
Struthers-Wells Co.

Pipe, Segmental
Robinson Clay Product Co.

Pipe, Spiral Riveted
Abrendroth & Root Mfg. Co.

Pipe, Steel
Graver Tank Works, Wm. B.

Pipe, Vitrified Clay and Sewer
Robinson Clay Product Co.

Pipe, Wood
Michigan Pipe Co.
National Tank & Pipe Co.
Pacific Tank & Pipe Co.
Portland Wood Pipe Co.
Standard Wood Pipe Co.
Washington Pipe & Fdry. Co.
Wyckoff & Son Co., A.
Wyckoff Pipe & Creo. Co.

Pipe, Wrought Iron
American Pipe & Cons. Co.
Byers Co., A. M.

Piping, Power Plant, Bends, Flanges, Fittings, Etc.
East Jersey Pipe Corp.
Fox & Co., John
Kellogg & Co., M. W.

Plates, Steel
(See also Steel Plate Construction)
Carnegie Steel Co.
Chicago Bridge & Iron Works
Christopher & Simpson Iron Works
Lackawanna Steel Co.

Plates, Tin and Terne
Am. Sheet & Tin Plate Co.

Pneumatic Tools
(See Tools, Pneumatic)

Poles, Cross Arms, Etc.
Jennison-Wright Co.

Poles, Tubular Steel
Byers Co., A. M.
Franklin Steel Works

Power Transmission Machinery
General Electric Co.
Hunt Co., C. W.
Jeffrey Mfg. Co.
Webster Mfg. Co.

Pressed Steel Cores
Berger Mfg Co.

Pulverizers
(See Crushers and Pulverizers)

Pumping Engines
(See Engines, High Duty Pumping)

Pumps, Air Lift
Emerson Pump & Valve Co.
Worthington Pump & Machy. Corp.

Pumps, Boiler Feed
American Well Works, The
Cameron Steam Pump Works
Dean Bros. Steam Pump Works
Gardner Governor Co.
Goulds Mfg. Co.
Morris Machine Works
Worthington Pump & Machy. Corp.

Pumps, Centrifugal and Turbine
Alberger Pump Condenser Co.
Allis-Chalmers Mfg. Co.
American Well Works, The
C. H. & E. Mfg. Co
Cameron Steam Pump Works
Darling Pump & Mfg. Co.
De Laval Steam Turbine Co.
Deming Co.
Earle Gear & Machine Co.
Goulds Mfg. Co.
Lawrence Pump & Engine Co.
Layne & Bowler Co.
Lawrence Machine Co.
Morris Machine Works
Pelton Water Wheel Co.
Platt Iron Works
Twinvolute Pump & Mfg. Co.
Watson-Stillman Co.
Whitman Co., A.
Wood & Co., R. D.
Worthington Pump & Machy. Corp.

Pumps, Contractors'
American Well Works, The
Bond Co., Harold L.
Cameron Steam Pumps Co.
Earle Gear & Machine Co.
Edson Mfg. Co.
Emerson Pump & Valve Co.
Gardner Governor Co.
Hinman & Co., D. A.
Morris Machine Works
Nye Steam Pump & Mchry. Co.
Schramm & Son, Chris. D.
Standard Scale & Supply Co.
Van Nouhuys Mach. Works
Worthington Pump & Machy. Corp.

Pumps, Deep Well
American Well Works, The
Cameron Steam Pump Works
Cook, A. D.
Dean Bros. Steam Pump Wks.
Deming Co.
Earle Gear & Machine Co.
Goulds Mfg. Co.
Keystone Driller Co.
Luitwieler Pumping Engine Co.
Pelton Water Wheel Co.
Twinvolute Pump & Mfg. Co.
Worthington Pump & Machy. Corp.

Pumps, Diaphragm
Bond Co., Harold L.
Boston & Lockport Blk. Co.
Cameron Steam Pump Works
Deming Co.
Edson Mfg. Co.
Goulds Mfg. Co.
Hinman, & Co., D. A.
Morris Machine Works
Oshkosh Mfg. Co.
Parker, A. A.
Van Nouhuys Mach. Wks.

Pumps, Elevator
Worthington Pump & Machy. Corp.

Pumps, Fire

Pumps, Gasoline, Portable
American Well Works, The
Bond Co., Harold L.
Edson Mfg. Co.
Hinman & Co., D. A.
Paker, A. A.
Schramm & Son, Chris D.
Worthington Pump & Machy. Corp.

Pumps, Mine
American Well Works, The
Cameron Steam Pump Works
Dean Bros. Steam Pump Wks.
Earle Gear & Machine Co.
Goulds Mfg. Co.
Layne & Bowler Co.
Morris Machine Works
Nye Steam Pump & Mchy. Co.
Twinvolute Pump & Mfg. Co.
Worthington Pump & Machy. Corp.

Pumps, Portable
Schramm & Son, Chris. D.

Pumps, Power
American Well Works, The
Cameron Steam Pump Co.
Cook, A. D.
Dean Bros. Steam Pump Wks.
Layne & Bowler Co.
Luitwieler Pumping Engine Co.
McGowan Co., John H.
Morris Machine Works
Parker, A. A.
Platt Iron Works
Rumsey Pump Co.
Twinvolute Pump & Mfg. Co.
Worthington Pump & Machy. Corp.

Pumps, Sand
Marion Steam Shovel Co.
Morris Machine Works
Nye Steam Pump & Mchry. Co.
Parker, A. A.
Traylor Eng'g & Mfg. Co.
Worthington Pump & Machy. Corp.

Pumps, Steam
American Well Works, The
Cameron Steam Pump Works
Dean Bros. Steam Pump Works
Deming Co.
Emerson Pump Valve Co.
Gardner Governor Co.
McGowan, Co., John H.
Nye Steam Pump & Mchry. Co.
Parker, A. A.
Platt Iron Works
Twinvolute Pump & Mfg. Co.
Worthington Pump & Machy. Corp.

Pumps, Trench
Whitman Co., A.
Worthington Pump & Machy. Corp.

Pumps, Turbine
Alberger Pump & Condenser Co.

Pumps, Underwriters' Fire
American Well Works, The
Worthington Pump & Machy. Corp.

Pumps, Vacuum
Cameron Steam Pump Works
Nye Steam Pump & Mchy. Co.
Worthington Pump & Machy. Corp.

Pumps, Water-Works
American Well Works, The
Cameron Steam Pumps Co.
Earle Gear & Machine Co.
Layne & Bowler Co.
Morris Machine Works
Pelton Water Wheel Co.
Twinvolute Pump & Mfg. Co.
Worthington Pump & Machy. Corp.

Pumps, Wind Mill
Deming Co.

Punches, Beam and Angle
Watson-Stillman Co.

Quarry Machinery
Bond Co., Harold L.
Ingersoll-Rand Co.
Marion Steam Shovel Co.
Sullivan Machry. Co.
Worthington Pump & Machy. Corp.

Rail and Rail Joints, Fastening and Specialties
Bethlehem Steel Co.
Carnegie Steel Co.
Lackawanna Steel Co.
Orenstein-Arthur Koppel Co.

Railways, Industrial
Hunt Co., C. W.
Lakewood Eng'g Co.
Orenstein-Arthur Koppel Co.

Rams, Hydraulic
Deming Co.
Goulds Mfg. Co.

Recorders
Sanborn Co.

Registers, Water Stage
Gurley, W. & L. E.
Sanborn Co.

Reinforced-Concrete Work
(See Concrete Construction)

Reinforcing Metal for Concrete Work
American Steel & Wire Co.
Brown Hoisting Machry. Co.
Concrete Steel Co.
Consolidated Expanded Metal Cos.
Corrugated Bar Co.
Electric Welding Co.
Laclede Steel Co.
Mitchell-Tappen Co.
North Western Expanded Metal Co.
Trussed Con. Steel Co.
Witherow Steel Co.
Wright Wire Co.

Reservoirs, Aërating
Spray Engineering Co.

River and Harbor Work
Atlantic, Gulf & Pacific Co.
Raymond Concr. Pile Co.
Rhodes & Manvel, Inc.

Riveters, Pneumatic
(See Tools, Pneumatic)

Road Machinery
Austin Mfg. Co.
Austin Western Rd. Mchry. Co.
Buffalo-Springfield Roller Co.
Case T. M. Co., J. I.
Erie Machine Shops
Keystone Driller Co.
Marion Steam Shovel Co.
Thew Automatic Shovel Co.
Western Wheeled Scraper Co.

Road Oils and Preservatives
Barber Asphalt Paving Co.
Barrett Co., The
Standard Oil Co. of N. Y.

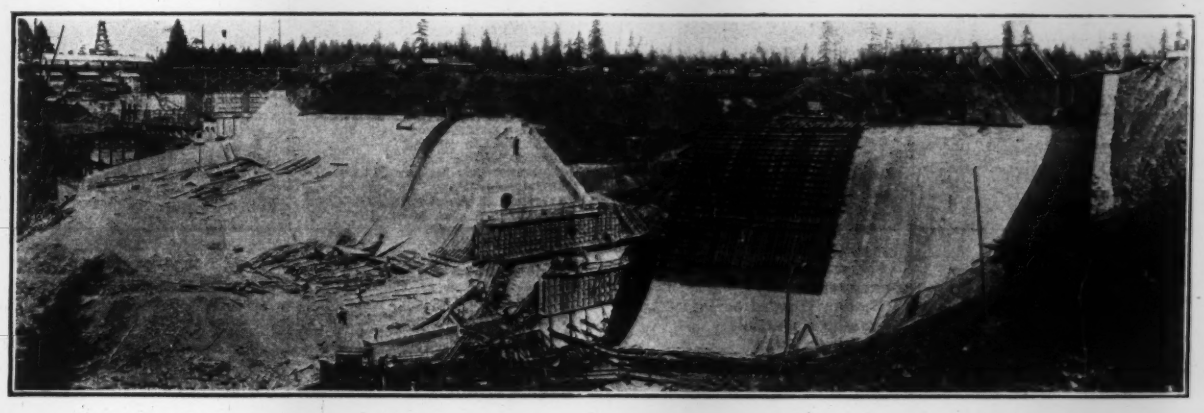
Rollers, Road
Austin Mfg. Co.
Austin-Western Rd. Machry Co.
Buffalo-Springfield Roller Co.
Case T. M. Co., J. I.
Erie Machine Shops

Rolls, Crushing
Buchanan Co., Inc., C. G.

Roofing
Amer. Cement Tile Mfg. Co.
Barber Asphalt Paving Co.
Barrett Co., The
Stark Rolling Mills Co.
Texas Company, The

AMBURSEN Dams During Construction

This type of structure has been used for all heights up to 150 feet and for all classes of foundation. It can be built in less time and for less money than any other permanent type.



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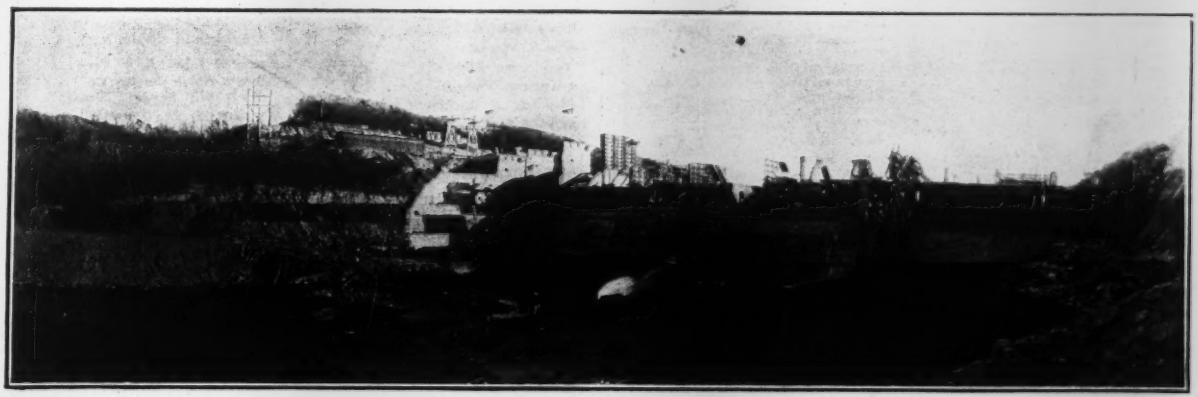

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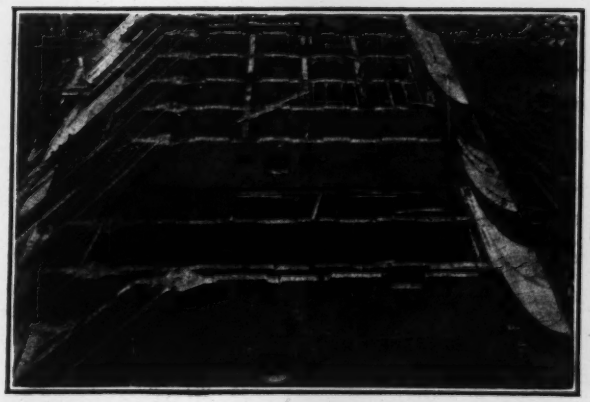

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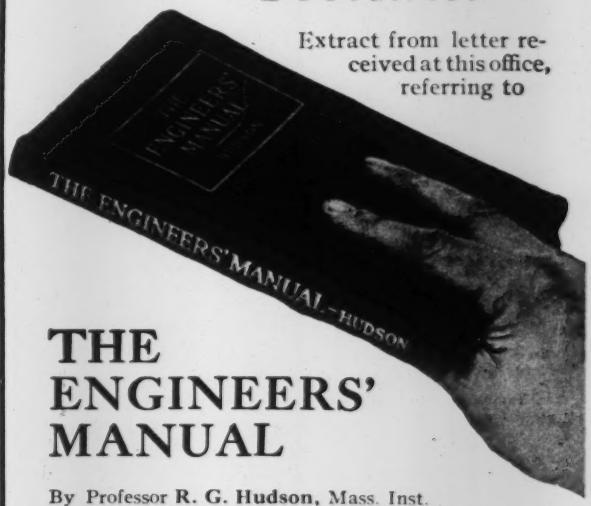

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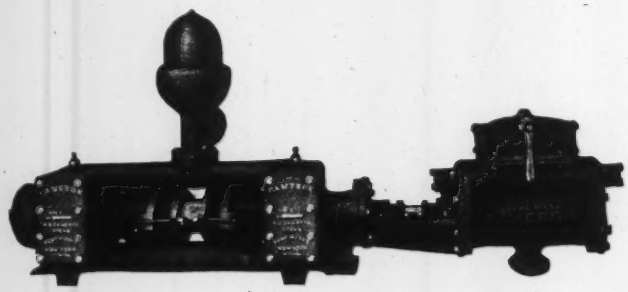

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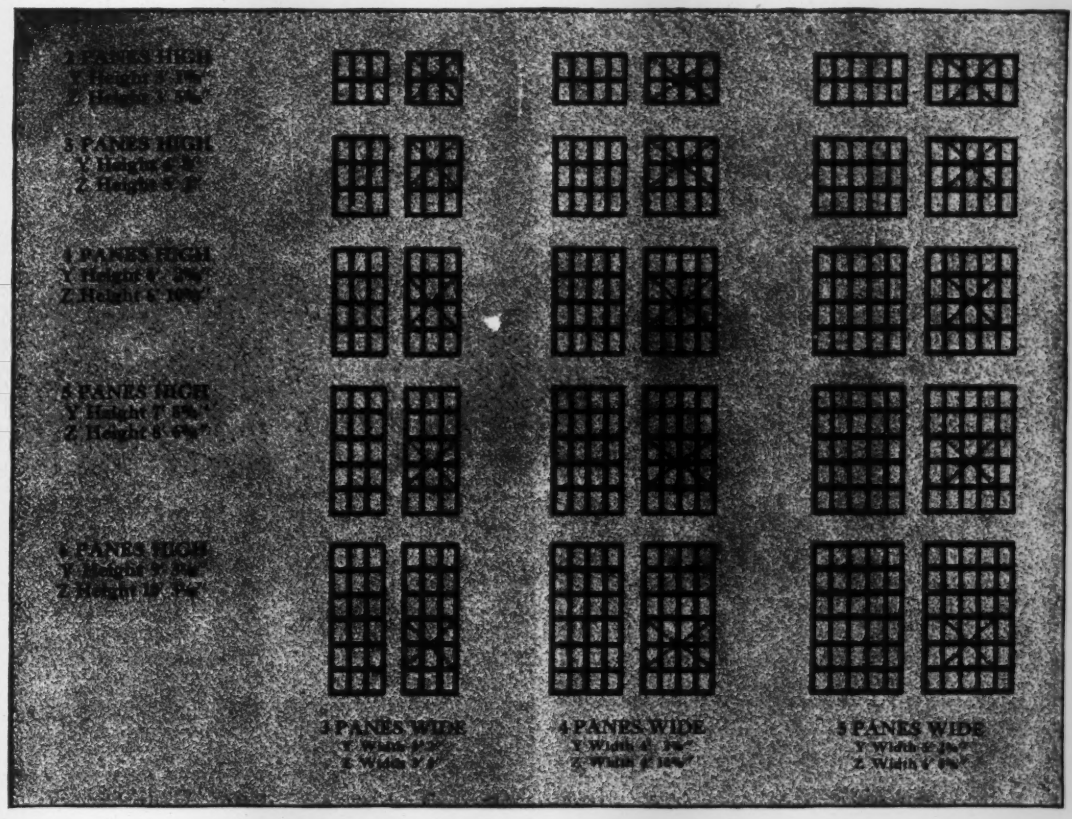

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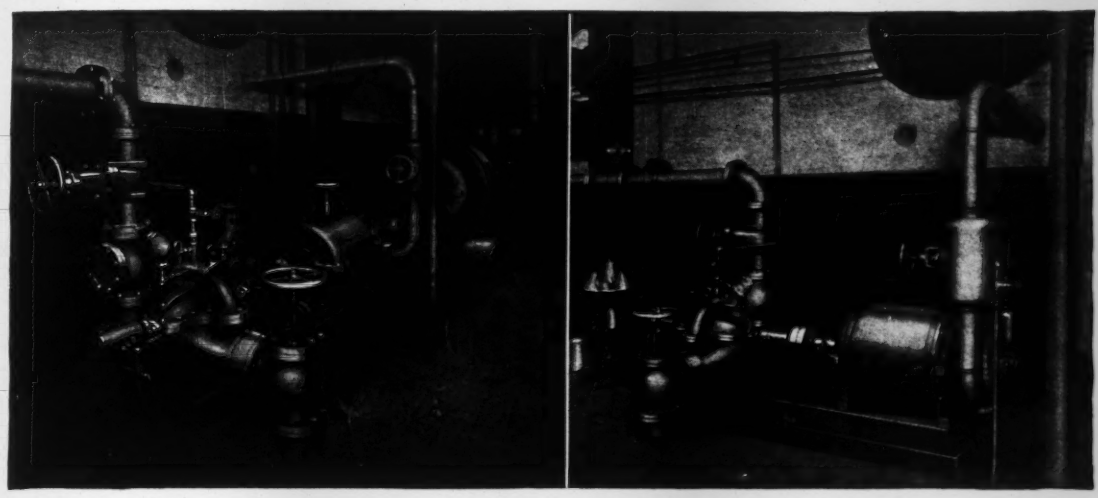

The Kind of Pump Quality That Commands Satisfaction

In nearly every "American" pump advertisement an actual pump installation is shown. Moreover the name and complete address of the owner is given so that anyone can verify every claim we make in reference to "American" pumps.

During the last two years about 100 pump installations have been shown and in nearly every advertisement the characteristics of the pump are given. In this time there has never been a question that we claimed an efficiency that we could not prove.

The fact is "American" pumps possess a quality of which we are not ashamed. It is our faith in that quality that impels us to constantly offer you the opportunity to prove our statements.

The above illustration shows two views of a pump installed by us about two years ago in the Blue Island Power Plant of the Public Service Company of Northern Illinois.

This unit is an "American" 6 in., Type D S T D, horizontal single stage, double suction centrifugal pump, completely bronze fitted, driven by a 53 h.p., horizontally split shell, Kerr steam turbine, operating non-condensing. The pump is designed to deliver 1000 g.p.m. when operated at 2400 r.p.m. and takes water from the river and delivers it into the general distributing system of the plant.

The owners report the pump is giving excellent service. It is our knowledge that this pump possesses the quality that will command satisfaction that induces us to give the name of the owner just as we are constantly doing of a different installation each week in all our advertising.

Catalog 132 describes about 50 styles of American Centrifugal Pumps. Write for it.

The American Well Works

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Simple Open-Tank Creosoting-Plant. Tank 2 ft. 6 in. deep, 4 ft. wide and 22 ft. long, constructed entirely of wood and lined with galvanized sheet iron, soldered at all joints. Used for treatment of timbers and boards for roof over machine-room of paper-mill.

8 x 12 in. timber destroyed by decay after nine years' service in paper-mill.

Open-Tank Creosoting-Plant. Note the steam supply-pipes in the foreground and the steam-pipes in bottom of tank arranged in two coils of three lengths each; also the overhead two-ton chain-block traveling-hoists.

"Fungous Growths Destroy Many Wooden Roofs

"New England Structures Suffer Heavy Damage from Dry-Rot"

The above quotation is the caption of an article which appeared in the *American Lumberman*, issue of January 6, 1917, describing in detail the large loss, due to decay, of roof-boards and timbers in cotton- and paper-mills.

Creosoting such material properly will prevent this loss and probably more than double the life of roofs so exposed. This may be done by the Open-Tank system of treatment, which is economical and adaptable to nearly all conditions.

Barrett's TRADE B MARK Carbosota Grade-One Liquid Creosote Oil

Creosoted wood *does not increase* the fire-hazard. When thoroughly seasoned after treatment it will not ignite more readily than untreated wood, and in fact treatment with creosote tends to retard combustion.

Lumber creosoted by the Open-Tank system with a proper grade of refined coal-tar creosote oil will not bleed or exude oil when exposed to the high temperatures prevalent in machine-rooms of paper-mills and weave-sheds of cotton-mills.

" * * * a heavy plank roof is the ideal covering for a cotton-weave shed, provided that it won't rot." (Quoted from article mentioned.)

It Won't Rot if Properly Creosoted.

CARBOSOTA—Grade-One Liquid Creosote Oil is derived from pure coal-tar and refined especially for use by the Brush method and in the Open-Tank system of treatment. It is universally recognized as the "standard" and specified by the largest consumers.

(Note: It is necessary that all wood to be treated by the Brush or Open-Tank methods should be seasoned until air-dry.)

Booklet regarding the CARBOSOTA *treatment free on request.*

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